MECHANIX ILLUSTRATED

A FAWCETT PUBLICATION

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TOM McCAHILL isn't noted for pulling punches. He calls his shots as he sees them with honesty and integrity. And that's why MI's automotive expert is the best known and most respected authority in his field today. You'll want to read McCahill Previews The '59 Cars, pg. 73.

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NOVEMBER, 1958

VOLUME 54, NUMBER 11

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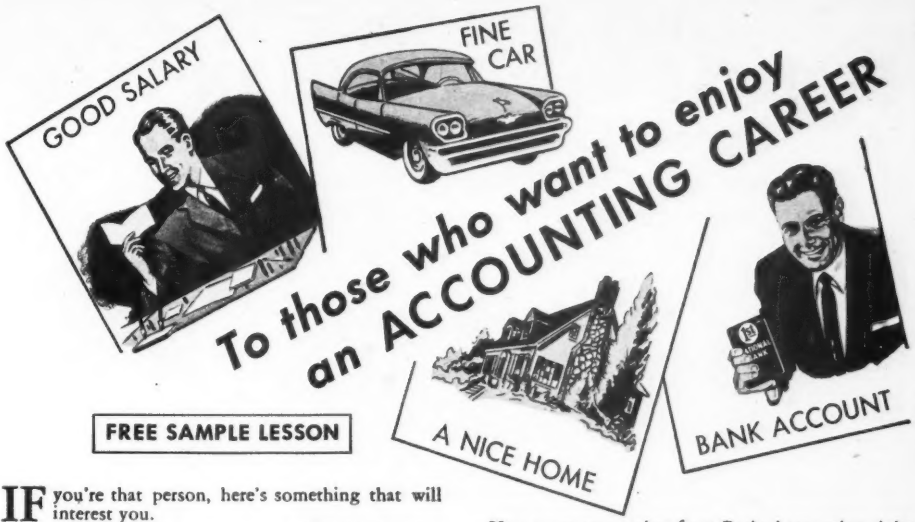

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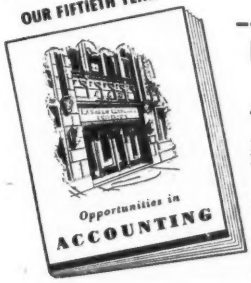
OUR FIFTIETH YEAR



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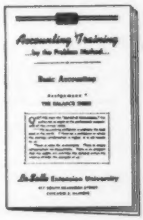
Address.....

City, Zone & State.....



OUR MEN MADE...

$1,000,000 PROFITS IN 1958

These Aren't Miracle Men!

THEY'RE NOT EVEN HIGH POWERED SALESMEN

$1554.00 ONE WEEK

INDUSTRIALS—"I sell VX-6 to plants for fork-lifts and other trucks. Then they buy for all vehicles and fleets." N. D. Kelly, Welland Ave., St. Catharines, Ontario, Canada.

$265.00 PART TIME

DOOR-TO-DOOR—"I sell to women at home during the day. They grab VX-6. It helps to avoid roadside breakdowns, which they're all afraid of." Carl Roberts, Santa Barbara, Calif.

$148.00 ONE DAY

SERVICE STATIONS—"Over 2,000 cars and trucks in this area have their batteries serviced with VX-6." Joe Jenkens, Point Marion, Pa.

$2316.96 ONE WEEK

BOATS-MARINE—"I point out to boat owners that they can't walk back from a dead battery. That's all I have to say to make a sale." Neil Sullivan, 236 Park Ave., Orange, N. J.

$1028.00 ONE MONTH

LOCAL STORES—"When I show retailers the ads run by the largest department stores for VX-6, sales are made right then and there." John Bort, 1811 Third St., N. Nampa, Idaho.

$579.19 IN 8 DAYS

FLEETS—"This is a once in a lifetime business. There is tremendous possibility for volume profits and volume orders." Chan Newcombe, Warwick, Rhode Island.

$500.00 ONE WEEK

CITY GOVERNMENT—"Local governments like to save money like anybody else. We show them how to save three out of four batteries with VX-6 and we're in." Frank D'Isa and Jack Kalin, 265 Church St., New Haven, Conn.

$385.00 ONE WEEK

FARMS—"Farmers don't buy just one or two packages of VX-6 at a time. They load up for all their vehicles. One sale is a day's work for me." G. F. Canovi, 320 Winslow St., Watertown, New York.

Two Out of Three Sales Guaranteed

If You Do What We Say—Say What We Tell You . . .
Call Where You Like—And Like What You Sell!

"PROVE-IT-TEST"

First add VX-6 to your battery, then with your ignition switched off and your brights on, step on the starter until the battery is so run down it won't start the engine or light the lights. Now wait 3 minutes with headlights off—then step on the starter. The battery will start your car instantly with a surge of power that it has regained during that brief three minute interval. Now you can make as many starts as you like or tests without fear of battery failure. The battery will regain its power after a brief pause every time.

WE GUARANTEE YOUR SALES!

Seal of Public Service Testing Laboratory

Nationally Advertised

You Have The Protection Representing A Division Of Stacey Warner Corp.

Are You On the Wrong Side of This Page?
Reading Instead of Cashing In!

The men above live in every part of the country, come from all walks of life. The only thing they have in common, is that they all mailed the coupon below.

Now, many of these men are making more money in an hour than they used to make in a week. Many of them are making more money in their spare time than they make at their regular jobs. Lots of them have gone into business for themselves with VX-6, and have become jobbers and distributors; sell in wholesale lots to large outlets of every kind.

There's no magic or mumbo-jumbo about selling VX-6. Best of all, you don't have to be a high-powered salesman or devote all of your time to selling. Just do what we say and say what we tell you.

CONVINCE YOURSELF AND YOU'LL SELL OTHERS

Three out of four batteries that are discarded as dead are merely choked to death by sulphation. VX-6 DISSOLVES THIS SULPHATION AND PREVENTS IT FROM FORMING!

By doing this, VX-6 returns so-called "dead" batteries to active life for many months and thousands of miles of service. You can discover this for yourself with the famous VX-6 "Prove-It" test on your own car or on a neighbor's.

When you've made this test and read the testimonial letters and list of nationally known concerns that use VX-6, you'll suddenly find yourself feeling as young as a pup—and anxious to jam on your hat and get out selling. We'll tell you exactly what to say, show you where to go and give you the most powerful selling ammunition ever devised in the direct selling field.

National Dynamics Dept. DN-1
220 East 23rd St., N. Y. 10, N. Y.

NATIONAL DYNAMICS
Dept. DN-1
220 East 23rd St., New York 10, N. Y.

MONEY BACK GUARANTEE

☐ I'm sold on VX-6. Enclosed is my $3.00 for a trial package of this amazing liquid battery additive. It is understood you will include the dynamic sales making material.

☐ I want to get going right away. Enclosed is $18.00 for 12 packages of VX-6.

☐ I want more information.

NAME _____

ADDRESS _____

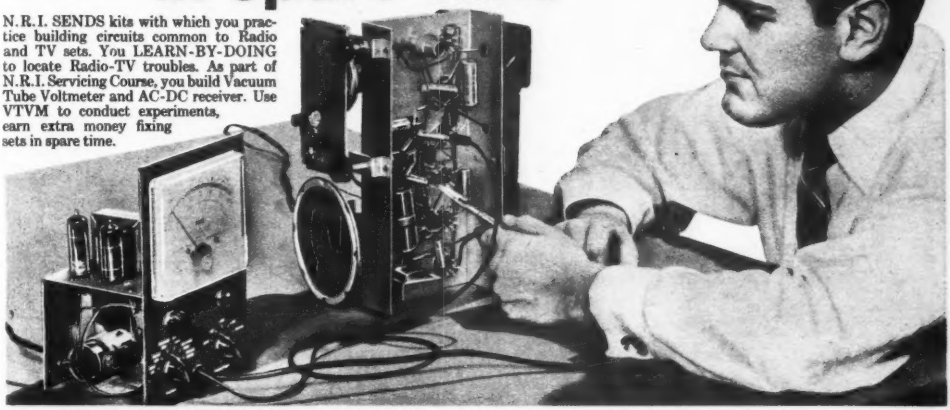
CITY_____ ZONE___ STATE_____

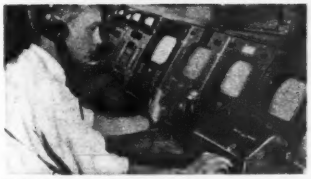
Learn Radio-Television

Servicing or Communications

by Practicing at Home in Spare Time

N.R.I. SENDS kits with which you practice building circuits common to Radio and TV sets. You LEARN-BY-DOING to locate Radio-TV troubles. As part of N.R.I. Servicing Course, you build Vacuum Tube Voltmeter and AC-DC receiver. Use VTVM to conduct experiments, earn extra money fixing sets in spare time.





RADIO-TV BROADCASTING (see above) offers important positions as Operators and Technicians. RADIO-TV SERVICING Technicians (see below) needed in every community. Their services are respected, their skill appreciated.

Fast Growing Field Offers You Good Pay, Success, Bright Future

J. E. SMITH
Founder

Bigger than ever and still growing fast. That's why Radio-TV has special appeal to ambitious men not satisfied with their job and earnings. More than 4,000 Radio and TV stations. More than 150 million home and auto Radios, 40 million TV sets. Color TV promises added opportunities. For the trained man, there are good jobs, bright futures in Radio-TV Servicing or Broadcasting.

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Added Income Soon - $10, $15 a Week in Spare Time

Soon after enrolling, many NRI students start to earn $10, $15 a week in spare time fixing sets. Some pay for their training and enjoy extra luxuries this way. Some make enough to start their own Radio-TV shops. NRI training is *practical*—gets quick results. Easy to understand, well illustrated lessons teach you basic principles. And you LEARN-BY-DOING by practicing with kits of equipment which "bring to life" things you study.

Find Out What NRI Offers

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"Doing spare time repairs on Radio and TV. Soon servicing full time." CLYDE HIGGINS, Waltham, Mass.

"I had a successful Radio repair shop. Now I'm Engineer for WHPE." V.W.WORKMAN, High Point, N.C.

"There are a number of NRI graduates here. I can thank NRI for this job." JACK WAGNER, Lexington, N. C.

VETERANS Approved Under G. I. Bills

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Mail me Sample Lesson and 64-Page Catalog FREE. (No salesman will call. Please write plainly.)

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15,000 man hours of engineering research went into development of this incredible 1/20th scale model of the U. S. Navy's Aerobee-Hi missile which will zoom up 1,000 feet (at 150-200 mph), eject a parachute from its soft vinyl nose cone, lower itself safely to earth. It takes 5 minutes to repack chute, install a new motor, and missile is ready for flight again. Solid fuel rocket motor was introduced with missile in a feature article in Mechanix Illustrated. Easily assembled, kit has 6 rocket motors, single rail launcher, $9.95 ppd. 42" high all-steel launching tower—adjustable over 10° arc for wind correction—in complete kit. $9.95 ppd. Motors—6 for $2.95.

C|S CHABON SCIENTIFIC CO.
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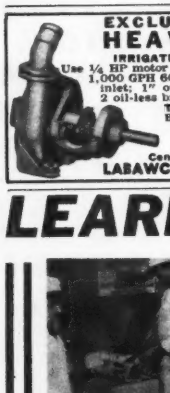

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IRRIGATE • DRAIN • CIRCULATE • SPRAY
Use ¼ HP motor or larger. . . . 1 HP for up to 7,500 GPH: 1,000 GPH 60' high; or 3,000 GPH from 25' well. 1¼" inlet; 1" outlet. Stainless shaft. TYPE X—$10.95
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Best for belt drives----------
Postpaid if cash with order. Don't delay—send for yours today!
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Centrifugal and Gear Pumps in All Sizes
LABAWCO PUMPS, Belle Mead 29, N. J.

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Sell warm leather jackets to truckers, milkmen, gas stations, etc.! Men really go for these fast-selling garments of Horsehide, Capeskin, Suede, Nylon, and 100% Wool. Warm quilted linings, fur collars! As our man in your community, you make BIG MONEY on every sale, yet you don't invest one cent. Rush card NOW... start building your own big profit-making business right away.
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Send me your FREE school catalog on National Training at Toledo in Meat Cutting, Meat Merchandising and Self Service Meats. No obligation. No salesman will call.
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Address .....
City..... State.....
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IN THE GREAT SHOPS OF COYNE

LARGEST, OLDEST AND BEST EQUIPPED SCHOOL OF ITS KIND IN U.S.

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Great opportunity for a good job or your own business in one of America's fastest growing branches of Electronics! New stations by the hundreds . . . new sets by the millions . . . and now Color TV . . . all means greater opportunities in Sales and Service. Separate courses in Radio-Television or in combination with Electricity-Electronics available. Coupon brings details.

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Training in Refrigeration and Electric Appliances can be included.

YOU TRAIN IN CHICAGO—Learn the easier practical way in shops of Coyne in Chicago. Shop work plus technical training. No advanced education or previous experience needed. Lifetime Employment Service to Coyne Graduates.

START NOW—PAY LATER

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Coyne training is offered to Veterans and Non-Veterans alike. We'll send Bulletin giving full information. *Send coupon for details.*

1. You are told the how and why of each job.

2. You're shown how to do it by trained instructors.

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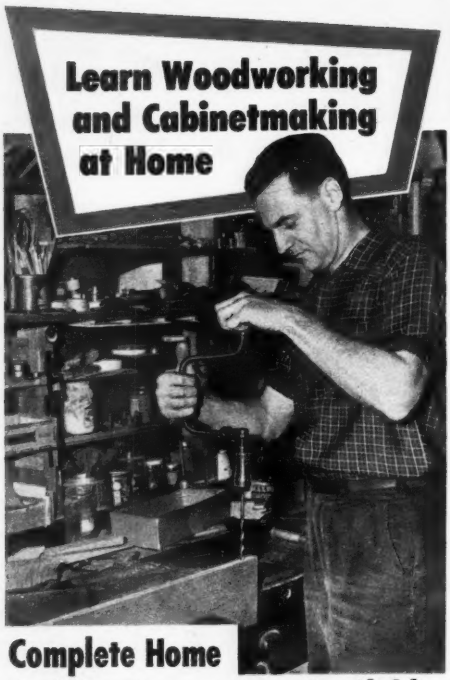

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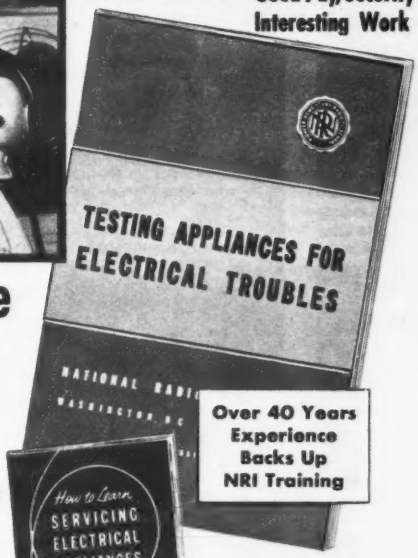

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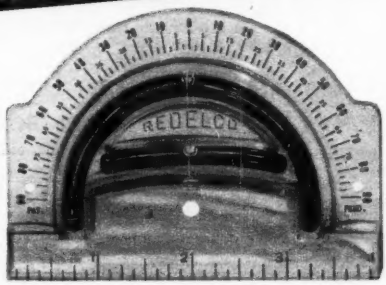

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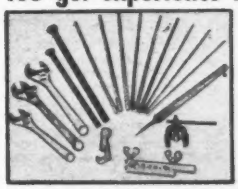
You get experience by training with kits



Above left is photo of tools in just *one* kit. You get other tools, tubing, much equipment. In another kit (right), you get motor, fan, pulley, service tools. Kits are sent on planned schedule so that you learn in easy stages. Kits develop skill, speed training. *No extra cost for kits!*

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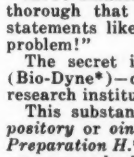

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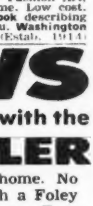

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Start at home in spare time with this little table top machine

The multi-million dollar Rubber Stamp Business—once controlled by a few big companies—is now being taken over by small home operators—one in each community throughout the U.S. Men and women who have this inexpensive machine can turn out huge quantities of Rubber Stamps with special wording that buyers once were forced to order from big cities. Material costing only 27c makes a stamp that sells for $1.80. The machine that does the work is simple and easy to operate and it turns out as many as six Rubber Stamps at a time each with different wording such as names, addresses, notices, stock numbers, prices and other "copy" needed by offices, factories and individuals. Working full capacity, it can earn as much as **$9.20 an hour for the operator!** Now you can get into the big-pay business yourself, with your own home as headquarters. You don't need any experience. We supply everything, including complete instructions and eight ways to get business coming in fast. Start making up to $9.20 an hour from the very beginning. Cash in on the profitable Rubber Stamp business in your community right away.

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Read This Plan for Two Weeks

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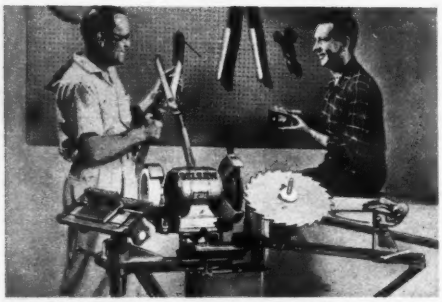

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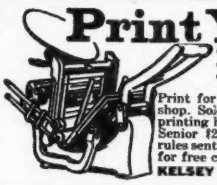

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● *Move Over, Abe*

As a result of all the reports about the decline of American health I decided recently to take up the old-fashioned pastime of walking in the country. I want to report on the conditions that now assail the rural pedestrian. First, the footing along the shoulder of a modern road is very poor, and the cars whizzing by at 60 mph and over keep you off the hardtop. Second, everyone you meet is deeply suspicious of you, including the state cops. Third, the modern dog has never seen a man on foot before and he attacks you on sight. He is always loose because there are no walkers to protect from him. Abe Lincoln would never have walked nine miles to school through country like this.

S. A. Watts
Yonkers, N. Y.

● *Women*

I disagree with some of the findings re women in Lester David's September article. Women don't have better color sense than Rembrandt or better taste buds than Oscar of the Waldorf. And their sense of

smell is definitely blunt, or they couldn't stand the sickening scents they use.

Jack Ritt
Baltimore, Md.

You and Lester David can drop dead.

Nora Plummer
Santa Monica, Calif.

● *Teen-Age Terror*

I very much enjoyed your article about tape recorders (More Fun From Your Tape Recorder) in the September issue and I am now getting a lot more out of mine. One notion you did not include was

taping people who don't know there's a mike around. A teen-age friend of mine slipped a mike into the parlor while his mother's canasta club was in session and taped a collection of the rawest jokes you ever heard, then played it all back to the girls later. Too bad he didn't tape their squeals of embarrassment!

H. T. Vogel
Columbus, Ohio

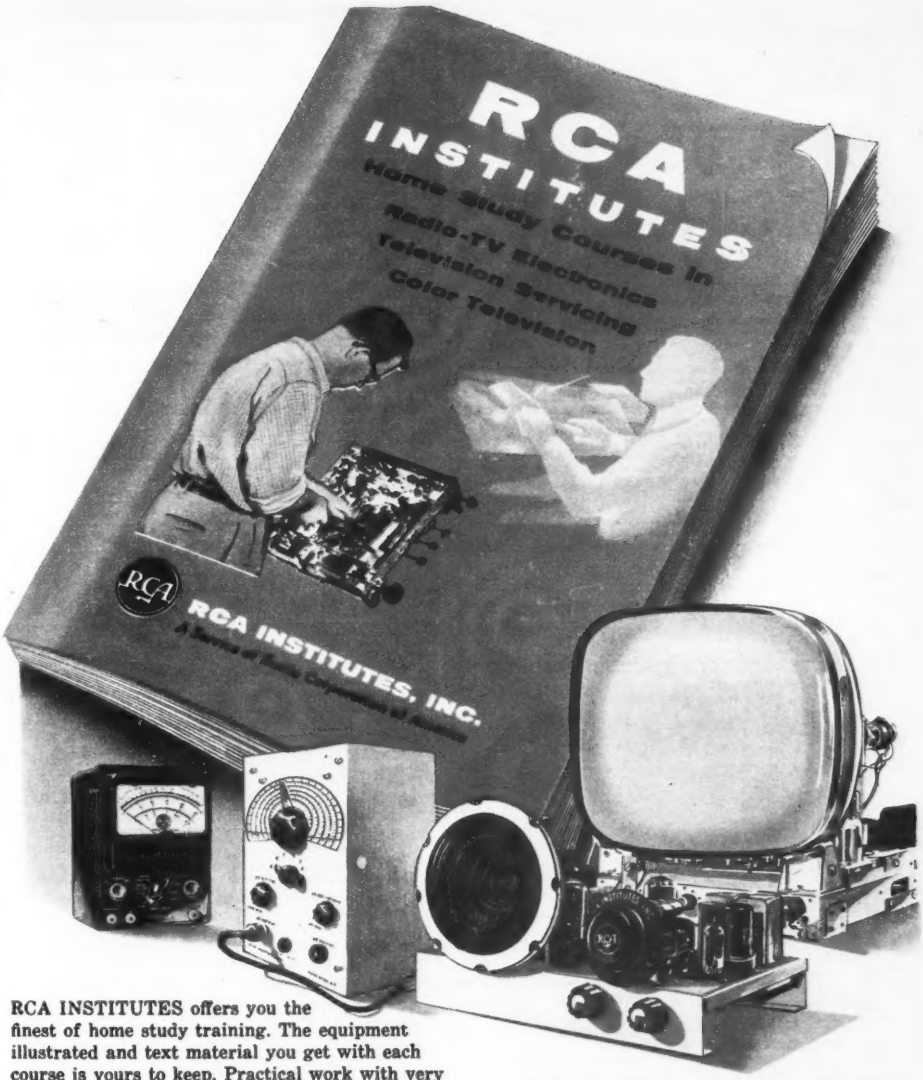
● *Worried*

I enjoyed reading your August issue article Hypnotize Yourself To A Better Life. What happens if you don't wake up?

Jimmy Smith
Hamburg, N. Y.

You pass into a normal sleep.

[*Continued on page* 31]



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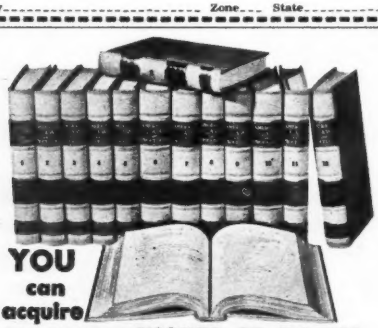

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Invention Clinic

Joseph H. Kraus

In this column each month Mr. Kraus will answer as many letters as space permits on those subjects he feels to be of widest general interest. Time does not allow him to reply to any letters except those printed here. Address your questions to the Invention Clinic, *Mechanix Illustrated*, 67 West 44 St., New York 36, N. Y.

Hoeing Machine

David G. Durrett of Cheneyville, La., constructed a model of his machine to hoe between cotton plants. Is this machine patentable?

To determine patentability, send diagrams and descriptions to your patent attorney and ask him to report on a search. In your present design you depend on a mechanical arrangement for determining the proper position for weeding between the cotton plants. With further thought you may be able to do this automatically, regardless of plant spacing. You should also study the various techniques now being used, both in the field and experimentally. In a few years a machine of this type might be obsolete.

Patching Plaster

Paul Godwin of Milwaukee, Wis., has compounded a creamy mixture which is waterproof, dries in a few hours and can be applied directly into a crack in a wall. The material sticks to metal, wood and plaster, does not crack even when nails are driven into it. It could be marketed in a plastic squeeze container. What should he do about getting a patent? To whom should he send samples?

You need to make many more tests and obtain much more data before investing in a patent. How well does this material bind to the crack? How much does it shrink on drying? Can it be smoothed easily? What effect does it have on surface paint? How long is the shelf life of the material packed in containers? Meanwhile, you might try to determine if the formula *is* patentable. For this, order a search from your patent attorney. Finally, you should have a good idea of the cost per container of the product when it is marketed in large quantities and you also should know what packaging problems, if any, are likely to be involved. Anything which sticks to any other material, and dries as hard as stone in a few hours, will present some difficulties. At this time we would not recommend that you furnish samples. Wait until after you have applied for the patent.

Suction Cups—Eyeglass Solution

Robert L. Childs of Baltimore, Md., outlines a specific purpose and modification of suction cups and also suggests a liquid for special use on eyeglasses. Do we think that either idea has merit?

We recommend a search to determine if the suction cup arrangement may have patentable features. We feel that this item should sell readily. More work needs to be done with the eyeglass liquid. Perfection of application, safety and effectiveness need to be tested. The subsequent ease of handling might be a detriment, so you might study this more completely. There is a potential for a good sale; also considerable danger of speedy imi-

[*Continued on page* 24]

INVENTOR'S TIP OF THE MONTH

A good paint-removing tool which would remove paint quickly and easily from stiles, parting strips and inside and outside trim of windows would probably have a remarkable sale. A completely satisfactory chemical paint remover might do, especially if washing could be eliminated. Or an easily washable surface which never needs painting, and which could be attached to the wood to eliminate most of the trouble with sash windows, is sure to sell.

INVENTORS

If you believe that you have an invention, you should find out how to protect it. The first step is to have a search made of the prior pertinent U. S. patents. If a report on this search indicates that the invention appears patentable you can apply for a patent, and the specifications and claims should be prepared.

The firm of McMorrow, Berman & Davidson, with offices in Washington, D. C., is qualified to take the necessary steps for you. We can make a preliminary search on your invention, advise you whether we think it can be patented, and prepare your application for patent.

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Inventors

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Mail your disclosure to the registered patent attorney or agent whom you select to assist you, together with a letter authorizing him to conduct a preliminary search among previously granted U. S. patents for similar types of invention. He then prepares for you a report on the probable patentability of your invention and, if the report is favorable, recommends the further course you should take.

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Invention Clinic

[Continued from page 22]

tation. Hence all details for marketing should be worked out so that you can make a quick sale before similar liquids, or substitutes, are marketed.

Telescoping Gauge

E. W. G. of Bluepoint, N.Y., has filed for a patent on a telescoping gauge which employs a line and point contact. This tends to align the gauge square and parallel to the bore. Bell-mouth, taper and hour-glass conditions can be detected quickly. Can this item be marketed easily?

It never is easy to market a new gauge, regardless of how good it might be. At present there is no demand for your gauge. Hence the manufacturer must convince the customer of its advantages. However, if your gauge will do things which other gauges will not do and remain accurate longer, you would have a better chance of selling the patent. This looks like a useful tool worthy of your efforts.

Street Direction Sign

Ralph W. Johnson of Charlotte, N. C., sends a photoprint of a pending patent for a directional signal which will tell the motorist what to expect at the intersection a block away. What do we think of it?

Two major obstacles block the commercial acceptance of this invention: 1. You have to persuade a town or city to use your device after it is patented; 2. You need to give every driver instructions as to what the signals mean. A 12-unit sign, as shown in your Fig. 6, would be most confusing to a motorist. Frankly, we doubt you will get anywhere with this invention.

Automatic Electric Iron

Mrs. John K. Bach of Elyria, Ohio, designed an electric iron which "works the same as a hand switch in power hand tools." She made and tested a model, then wrote to a patent attorney for a report on a search. He sent her three prior patents in the same field and advised against filing for a patent. "In my opinion," she writes, "the patent copies that were sent me were very crude and very awkward to use, so I can see why they would be

[Continued on page 26]

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[*Continued from page* 24]

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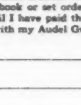

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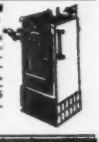

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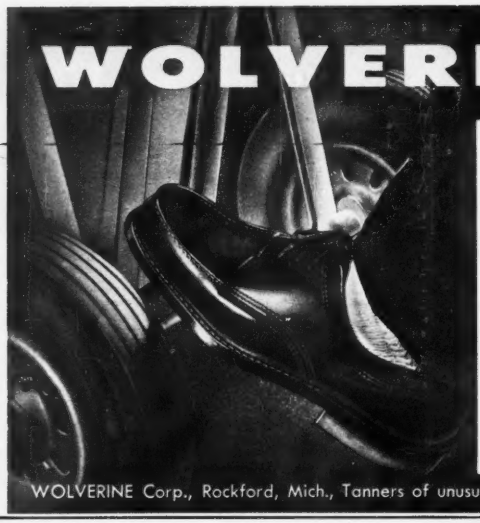

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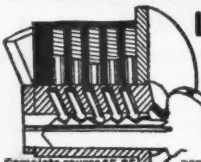

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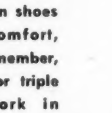

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Dear Editor

[*Continued from page* 18]

• *Chess Challenges*

Players who want to play correspondence chess may send first moves to Jim Lewis, 2255 So. Stuart, Denver, Colo., or Fred Weiner, 4036 Bruner Ave., New York 66, N. Y.

• *November MI Mystery*

With how few bearers can an explorer make a six-day march across absolutely barren desert if he and the available bearers can each carry only enough food and water to last one man four days? (From 101 Puzzles In Thought And Logic by C. R. Wylie, Jr., $1.00, Dover Publications, New York.)

• *September Mystery Solved*

Four black cows and three brown cows give as much milk in five days as three black cows and five brown cows give in four days. Which kind of cow is the better milker?

Brown is the best milker.

Sam Mummey
Iowa City, Iowa

• *Perfectly OK*

I guess it's a bit late to be writing about this, but I certainly did enjoy the article entitled MI's Speedball Special (Sept. '56 MI). It is one of the most beautiful cars I have ever seen.

I am 15 years old and have been sick for 28 months but I plan to build a Speedball Special when I am well. Something I would like to see in your fine magazine in the future is a road test and a review of the Special.

Fraser McRae, Jr.
Vancouver, B. C.

• *Home Flour Mills*

I would like to compliment you on the very interesting article New Staff Of Life (July MI). In our family, we have noted an improvement in health since eating whole-grain breads. There are many families who, because they are unable to find a fresh supply of whole wheat flour, grind their own with small electric home mills. They are manufactured by Hol-Grain Milling Co. and the Lee Engineering Co., both of Milwaukee.

Jean E. Mitchell
Shreveport, La.

[*Continued on page* 33]

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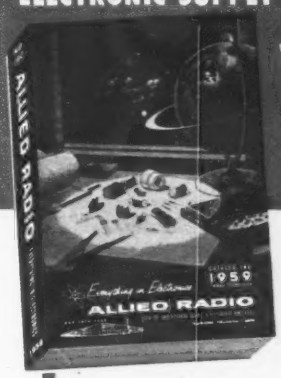

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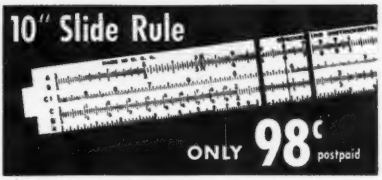

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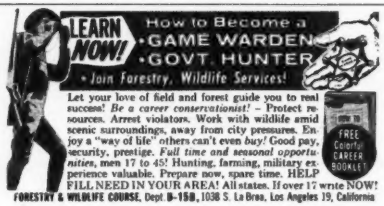

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Dear Editor

[*Continued from page* 31]

● ***Transpacific***

In your April 1957 issue you printed a picture of my 1913 Krit. I am enclosing a copy of a letter which I just received from Motueka, New Zealand, from a Mr. John C. Hurley who apparently reads your magazine. I will be able to furnish Mr. Hurley most of the information he desires so he will be able to restore the automobile. I felt that you would be interested in knowing of the wide distribution of your magazine and also how you fit into the picture in promoting good relationships between the United States and New Zealand.

Orville G. Lundstrom
Houston, Tex.

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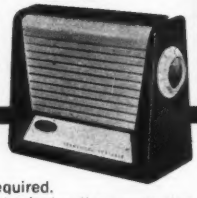

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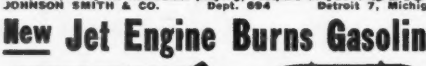

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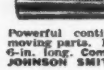

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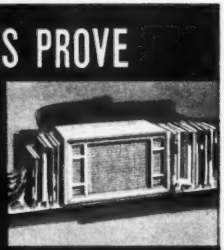

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PATENTS GRANTED

AN automatic flapjack machine that pours the batter onto circular griddles, one below the other, where each side is baked for a pre-set time before being popped into a pan golden brown and ready to devour, was invented by David L. Jaffe of Great Neck, N.Y. Mr. Jaffe got patent 2,830,529 for his flapjack maker.

A plastic, self-supporting inflatable tent that eliminates the use of poles or ropes won patent 2,830,606 for Louis E. Daugherty of St. Paul, Minn. The tent is laced to its base, also inflatable, and the weight of the body resting on the base of the quonset hut-shaped tent is enough to keep it on the ground.

A cigarette holder which holds two butts has been invented by Robert A. Campbell of Oak Park, Ill. The holder consists of a short plastic or metallic tube, flat in the middle. A cigarette is inserted in each end of the holder. The device was granted patent 2,830,593 and is said to give extra protection to the user against harmful elements in the cigarette smoke.

Self-propelled water skis have been developed by Norbert J. B. Turgeon of Berlin, N.H. The water skis are complete with steering device and jet engine. Mr. Turgeon was awarded patent 2,828,491 for his idea.

A gun-type toothbrush invented by Erin Nugent of West Redding, Conn., may make it easier for you to drag Junior into the bathroom to brush his teeth. The gun contains a retractable and extendable brush. The ivory cleaners took patent 2,828,504.

A wingless aircraft is designed so that it can take off or land vertically and fly at supersonic speeds horizontally. Invented by Alexander M. Lippisch, Cedar Rapids, Iowa, the banana-shaped craft has built-in props to give it simultaneous lift and forward motion. It was awarded patent 2,828,929.

Louvered screen sunglasses for anti-glare protection won patent 2,824,308 for Rea E. Duncan of Northbrook, Ill. The Venetian-blind type glasses are said to give "a normal-colored unrestricted view of the surrounding area." •

Merle A. Fry of Lansing, Mich., received patent 2,812,736 for a power-driven surf board which should be popular with beach enthusiasts. •

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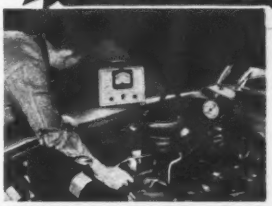

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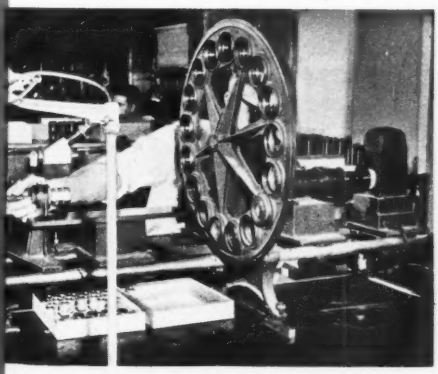

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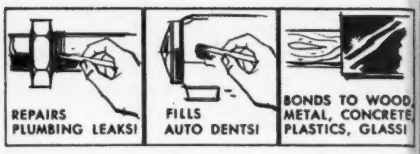

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YOUR OWN business—Suits $1.50; Overcoats 65c; Mackinaws 35c; Shoes 12½c; Ladies' Coats 30c; Dresses 15c. Enormous profits. Catalog Free. Nathan Portnoy Assoc., 2109-M Roosevelt Road, Chicago 8, Ill.

EVERY MAN a prospect. Request free sales kit showing line of belt buckles. Individualized with customer's name and emblems, also cap badges for trucking, bus, taxi, police, firemen. Choice 3000 emblems. Hook-Fast, Box 1425MI, Providence, R. I.

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SAVE MONEY! Buy Wholesale! Free catalog, general merchandise. Norris, 487-J Broadway, New York.

CHAMPION, AC, AUTOLITE spark plugs. Reconditioned, guaranteed. Sells on sight—service stations, garages, car lots. 100% profit. Free Sample. City Motors, 2913-M Fannin, Houston 2, Texas.

FUNMAKERS, GADGETS. Wholesale catalog free. Generous samples 25¢. Dohn-HC-Marks, Broadview, Ill.

CASH COMMISSIONS at once, taking orders for magazines every family wants! No experience needed. For Free money-making kit, with everything you need, write McGregor Magazine Agency, Dept. 360, Mount Morris, Ill.

TREMENDOUS PROFITS! Every man, woman and child a customer. Suits $1.50, Pants 35¢, Dresses 20¢, Shoes 20¢. Operate from store, home, car. Free catalog. Superior, 1250-C Jefferson, Chicago 7.

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BUY WHOLESALE! 30-80% Discounts! Nationally Famous Brands. Typewriters, Housewares, Appliances, Watches, Furniture, Musical Instruments, Cameras, Tools, etc. Consolidated Distributors, Clifton 15, N. J.

$25 DAY, EASY. New fire extinguisher. Retails $2.95. Profit $2.00. Free Sales kit. Edconco, 155 East 44th Street, Dept. M-11, New York 17, N. Y.

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SNORE STOPPER—U.S. Patented—Doctor Endorsed. Sample, $1.00. Dozen $7.80. Cornwalls, Dept. MI, 2215-196 SW, Alderwood Manor, Wash.

GOLD OR Silver Letters, Numbers. Windows, Doors, Trucks. 1" to 6". 500% Profits—Free Samples. Atlas-R, 544 West 79th, Chicago 20.

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$1,000.00 A MONTH for making dramatic 3-second demonstration of amazing lightweight Presto Fire Extinguisher. New chemical used by Airforce snuffs out fires instantly. Only $4.95. Terrific commissions. Millions want it. Free Kit. Merlite, 114 E. 32nd, Dept. P-66R, New York 16.

60% PROFIT ON Cosmetics—famous nationally advertised Hollywood cosmetics pay 60%. Make $25.00 day up! Hire others. For free samples, details, write Studio Girl, Glendale, Calif., Dept. 50811G.

"FOG-STOP" WINDSHIELD Cloth. Instantly removes blurry Mist, Frost, Sleet, Snow. Stops windshield fogging. Samples sent on trial. Kristee 52, Akron, Ohio.

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IF YOU'RE interested in making money in selling, see the hundreds of exceptional opportunities in Salesmen's Opportunity Magazine. Send name for your copy, absolutely free. Tell us what you're selling now. Opportunity, 848 N. Dearborn, Dept. 19, Chicago 10, Ill.

MAKE EXTRA Money. Cash commissions. Everybody buys easy-to-sell Advertising Book Matches. Union label. Big variety—Glamour Girls, Scenics, Hillbillies. Powerhouse selling kit Free. Steady repeat business. No experience necessary. Superior Match Co., Dept. F-1158, 7528 S. Greenwood, Chicago 19.

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$6,000 FOR MISTER! Mrs.: $3,500! Free "Secret Journal" Plan. Magical! Work home. Publico-NN3, Oceanside, Calif.

GROW A living Miniature Forest or orchard (only inches high), that bears tasty tiny fruit at home. Learn amazing Dwarfing secrets! Fascinating hobby. Profitable Home-business Opportunity. Free Seeds and Plan. (State your age.) Miniature Nurseries, Dept. NR, Gardena, Calif.

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1200 ITEMS DROP shipped. Wholesale circulars—catalogs supplied. Davenport Distributors, GPO Box 1354-Y, N. Y. 1, N. Y.

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MARKETS EVERYWHERE. Make Artistic concrete birdbaths, pottery. Chemical coloring. Home workshop. Stucco-rock walls. Hundred varieties. Hollywood Cementcraft, 8527-L Wonderland, Hollywood 46, Calif.

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MAKE FLEXIBLE molds. Cast plaques, figurines. Free sample. Tooker, 1045-E Fairview, Hamilton, Ohio.

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$15.00 THOUSAND ADDRESSING envelopes, home. Longhand—typewriter. Particulars free. G. Cove, Box 2580, Greensboro, N. C.

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FOREIGN JOBS—Latin America, Alaska, Canada, up to $1500 monthly. Up-to-date 1958 Foreign Service Directory gives complete information; hot list of firms hiring for Military and Civilian Construction, Aircraft, Oil, Exporters-Importers, Mining. How-When-Where to apply. 11th successful year. $1.00. Global Reports, Box 8873-MI, Los Angeles 8, Calif.

FREE INFORMATION — USA Overseas Jobs. High Pay, Transportation—Futures Unlimited, Dept. L, 215 West 34th Street, New York City 1.

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BOOMING LATIN America! Mexico, Venezuela, Brazil, etc. Salaries over $1,000.00 monthly U. S. Tax exempt. All skills required. Direct information on opportunities, conditions, American companies employing. New report! Air Mailed—$3.00. Paul B. Smith, Apartado 172, Maracaibo, Estado Zulia, Venezuela.

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PRIZE CONTESTS provide Fabulous Home Income Opportunity! Latest Books! How and Where to Win Your Share! Send Stamp! National Contest Bulletin, Box 2685-R, Miami 16, Fla.

FREE PARTICULARS and proofs from our many customers who are making money with our brush plating outfit that requires no tanks and formulas for silvering mirrors of all kinds, metal and wood finishes, silver plate and polish and 50 other money making formulas. Write today. Gun Metal Co., Ave. A, Decatur, Ill.

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WE PAY $3.50 lb. dried. Grow Mushrooms. Cellar, shed and outdoors. Spare, full time, year round. We have 25,000 customers. Free Book. Washington Mushroom Ind., Dept. 184, 2954 Admiral Way, Seattle, Wash.

SELL TITANIA Gems; far more brilliant than diamonds. Catalog 10¢. Diamonite, 2420-X 77th, Oakland 5, Calif.

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MAKE EXTRA Money. Cash commissions. Everybody buys easy-to-sell Advertising Book Matches. Union label. Big variety—Glamour Girls, Scenics, Hillbillies. Powerhouse selling kit Free. Steady repeat business. No experience necessary. Superior Match Co., Dept. FX-1158, 7528 S. Greenwood, Chicago 19.

EARN SPARETIME cash preparing-mailing advertising. Temple Co., Muncie 8, Ind.

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MAKE $5,000 yearly sparetime raising mink, chinchillas, nutria, etc. Free booklet reveals proved plans. Write: Furs, 588 Mt. Pleasant Road, Toronto 3, Can.

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SELL TO Uncle Sam! Buy junk jewelry for a song. Sell the fine gold in it to Uncle Sam for $35 an ounce (less a small handling & refining charge). Let me show you how to get started. No charge for information. Write Leslie Patton, 335 W. Madison St., Dept. C-17-S, Chicago 6.

INVISIBLE REWEAVING: $5 in one hour possible reweaving burns, tears, mothholes. Spare-full time. Free Details. Skil-Weave, Dept. SC-3611, 335 W. Madison, Chicago 6.

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WHOLESALE "BRONZED" baby shoe mountings. Equipment. Forester, 1520 Ardmore, Chicago 26.

$30-$60 WEEKLY ADDRESSING Envelopes. Instructions $1, refundable. Reiss, 210 Fifth Ave., Suite 1102-B, New York 10.

EARN MONEY with your camera. Complete instructions $1.00. Deb. Box 214, Emmaus, Pa.

ATTENTION! MEN, Women! Earn extra cash, address advertising postcards. Langdons, Box 41107-M, Los Angeles 41, Calif.

START BIG-PAY Business At Home in spare time. No experience needed to operate little table-top machine for bronzing baby shoes. Make $5.46 profit on every pair. Full particulars Free. Send postcard to Mason, 1512 Jarvis, Room CM4L, Chicago 26, Ill.

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$36-$200 WEEKLY PLATING baby shoes, making jewelry, novelties, etc., at home. Details free. JO-CA Electroplater, 7840-S Northwest Sixth Court, Miami 50, Fla.

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CIGARETTES—IMPROVED roller makes 20 for 9¢. Fine pipe tobaccos. Facts free. Moberly, Box 844, Owensboro, Ky.

MAIL TRADE magazine has moneymaking opportunities galore. Sample 25¢. Donovan, 79-M Greenbelt, Levittown, N. Y.

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USE YOUR spare time! Start your own Moneymaking Mail Order Business. Information worth $1000's to you. $1.00. Guaranteed. Modern, Box 104, Hannibal, Mo.

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FABULOUS OPPORTUNITIES, Amazing Offers, 25¢. Greyhouse, 7000 Monmouth, Ventnot, N. J.

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GUARANTEED MARKET! Earn ready cash raising fishworms for us! Backyard, garage, basement! We buy your crop! Exciting details free! Oakhaven-3, Cedar Hill, Texas.

$5,000 FROM HALF Acre growing Ginseng, crop bought. Particulars 10c. Associated Growers, Sperling, Manitoba.

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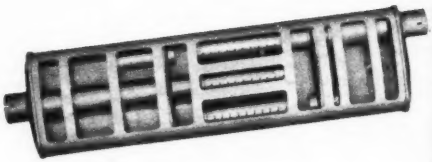

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Mail for McCahill

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● *I'm getting tired of driving. I used to love it, but now I'm 43 years old and the thought of a two or three hundred mile trip in any direction seems just so much work. The truth, Uncle Tom—when you get older, doesn't everyone get tired of driving?*

Ted Knox
Dallas, Texas

Ted, old boy, Paul Whiteman was driving cars long before you were born, and during 1958 Paul has driven alone from New York to Florida and back and to California and return. Right at this moment he is back in Florida again for a concert. In fact, he rarely stays in any place longer than John Dillinger, though (he claims) for different reasons. Whiteman's idea of a real ball, in spite of all this mileage, is to jump into his Porsche or Imperial and go for a drive. To answer your question: Some get tired of driving even before they start, and some like vanilla. Age seems to have little to do with it.

● *What's the matter with American women, always making the men buy big chrome-loaded cars that hog gas and cost a fortune to repair, with all kinds of fancy gadgets?*

Henry P. Reeves
Baltimore, Md.

Got the shoe on the wrong foot, buck. What's wrong with American men (?) who write the checks?

● *Next winter I am going to be in Daytona and what I want to know is how you get in the Century Club?*

Jim Bergen
Dayton, Ohio

The Century Club is sponsored by the Daytona Beach Chamber of Commerce. A certificate is awarded to all participants who drive 100 mph or better through the Measured Mile during Speed Weeks. Oddly enough, though I've qualified for this membership more than 100 different times, they must have figured I didn't count because I received my first certificate of membership last Spring. The way I got it is not considered the correct method for making such a run. During the Speed Trials each day I'd drive my official car through the traps first, not only to determine whether the timing apparatus was working correctly but also to check for any slicks or dips that might be dangerous. On the day my certificate was issued I was clocked at 113 mph in my station wagon, even though the wagon was not exactly in perfect racing trim. Aboard, in addition to myself, was that famed explorer-columnist Henry McLemore (the only man who ever raced down a bobsled run with a bear as a passenger); Jim McMichael, world-famous trunk-tester; my four Labrador Retrievers, Boji, Moose, Pinney and Dinah; our camera equipment; a gigantic picnic lunch and a two-way radio! All this equipment is not necessary to join the Century Club but this was the day they decided to give me the nod.

● *In the picture at the top of your mail column every month, what type of pipe are you smoking?*

F. M. Tenery
Boston, Mass.

Dunhill, model 42.

● *I won't ask you what you thought about the start at Indianapolis this year.*

Bud Epton
Wheeling, W. Va.

Thanks.

● *I park my car behind our apartment house which is in a neighborhood where a lot of punks run hot rods. Several times a month when I come out to get my car I find the gas tank empty. I figured these kids were siphoning off my tank, so last month I bought a gas cap with a lock. Though I had a full*

[*Continued on page* 54]

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Mail For McCahill

[Continued from page 53]

tank when I parked last night, the tank was bone dry this morning. The lock on the gas cap looked OK. Now what do I do? How did they get it out?

GHT
Flushing, L. I., N. Y.

Most gas tanks have a plug in the bottom that can easily be opened with a wrench if a guy really wants fuel bad enough (and at today's prices, who doesn't?).

● *Is there any fuel economy to be gained by installing dual exhausts on a V8 engine? If so, approximately how much?*

G. Hancock
Chicago, Ill.

Again, that's like asking, "How big is a fish?" A helluva lot would depend on the *type* of V8 engine and the size of its original exhaust system. As a rule of thumb, installing dual exhausts will eliminate a certain amount of back pressure, which means a freer-running engine, therefore more economy. However, as not all single exhaust systems contain the same amount of restriction, due to the varied sizes of exhaust manifolds, pipes and mufflers, there is no general blanket rule. On the old MI Ford, back in 1949, I increased my gas mileage by exactly one mile per gallon through adding duals. But all single-tube exhaust systems are better today than they were back in '49. If you are looking mainly for economy, here are a couple of factors to bear in mind: Supposing you *could* get a mile more out of every gallon. How many miles would you have to drive before the extra expense of the dual exhaust system paid for itself? Also keep in mind that if you plan on owning the car for some years, mufflers *do* burn out, and two replacements cost twice as much as one. They sound a lot better, though, and you'll feel your car's going better, even if it isn't. So be a sport and put 'em on.

● *There's a guy working at our plant whose car always looks brand-new, even though he claims he never washes it. He says that once a week, with a transformer, he shoots a heavy charge of electricity through the entire car and this makes the car repel instead of attract dust and dirt. Is he kidding?*

J. H. "Red" Guiness
Philadelphia, Pa.

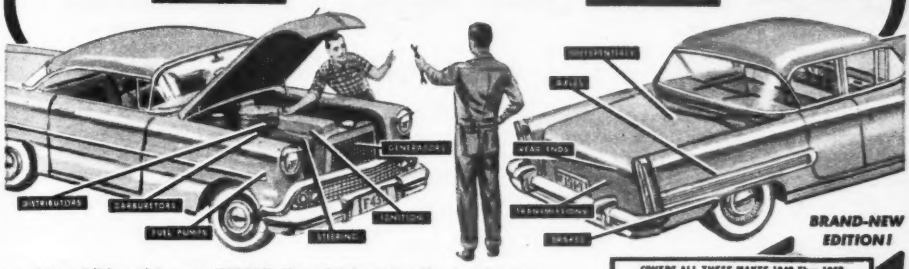
Yeah, he's kidding—I hope.

● *I've been reading about your cruiser The Rooster in MI and I kinda fell in love with*

[Continued on page 56]

Now the Factory Experts Who Build Them Work "Hand-in-Hand" With You to

FIX ANY PART OF ANY CAR



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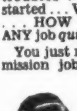

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Even a beginner can do a good job with this BIG guide beside him. And if you're a top-notch mechanic, you'll find time-saving procedures that save you countless hours – increase profits.

"Have been a mechanic 25 years. Manual takes me out of tight spots. It's simple enough to be understood by average person." —V. Lauria, Nev.

Here's everything you'll ever need to know to do FAST repairs on Automatic Transmissions, Air Suspensions, Ignitions, Carburetors, Steering Gears, Generators, Distributors, Power Steering and Brakes, Dash Gauges, Starter Switches, etc., etc. All with instructions and pictures so complete that you *can't miss*. No wonder it's called the "Auto Repair Man's Bible"! PROVE it can work repair wonders for you, too – on this FREE trial offer . . .

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[*Continued from page* 54]

it. Do you know if there is any place I can obtain plans for it?

Terry Sykes
Mission City, B. C., Canada

The Egg Harbor Boat Company, Egg Harbor City, N. J., built The Rooster for me. Undoubtedly, plans on this boat have been published in boating magazines, but I suggest you contact Phil Boyd, president of the Egg Harbor Boat Company.

● *I'm planning to buy a pick-up truck, and because of physical handicap I'll have to have an automatic transmission. I noticed that truck advertisers have stopped listing automatic transmissions as a selling point. Is this because they have proved unsatisfactory in trucks? I'd like your opinion.*

LeRoy K. Conrad
Vicksburg, Miss.

Most likely the reason for this has something to do with the price factor in a highly competitive market. The last pick-ups I tested were Fords, with and without automatic transmissions. Oddly enough, with a 5,000-pound load on a 32 per cent grade, the job with the automatic transmission could stop and start half-way up and go right over the top without trouble. Coming to a stop on the grade with the manual transmission rig made it impossible to get going again, regardless of technique used.

● *It has been proven in the aircraft industry that if all the passengers were seated backwards, the fatalities experienced during severe impacts might be cut by as much as 50 per cent. I believe in Eisenhower's plane he has a well-padded seat which faces backwards and which he uses during landings and take-offs. Here is my idea: It is highly possible to build a good-looking, functional automobile with all the seats facing the rear, including the* driver's!

With a system of optically corrected wide-angle mirrors, the driver could get the same view of the street and everything ahead of him (in this case, behind him) that he gets today. In other words, he'd use the same type of steering wheel and controls he does now, only these would be facing in the opposite direction, but counter-corrected to coincide with the view he'd get through the optical

[*Continued on page* 156]

Up to 35 miles per gallon with this Anglia model

Compare its low price with any other leading import!

Thanks to its compact size, this lively car is fun to drive, frugal of fuel. Yet there's plenty of room inside for four people. Easy service everywhere. For further information and name of nearest dealer, write: Imported Car Sales, Ford Motor Company, 34 Exchange Place, Jersey City 2, N. J.

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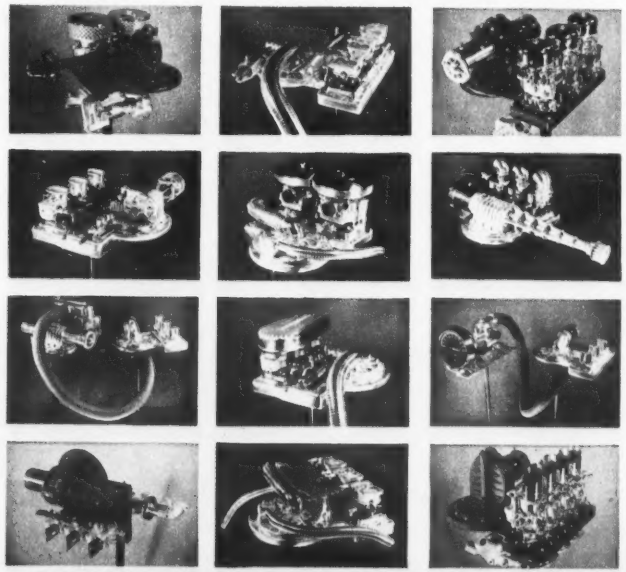

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- QUICK CHANGE MANIFOLD
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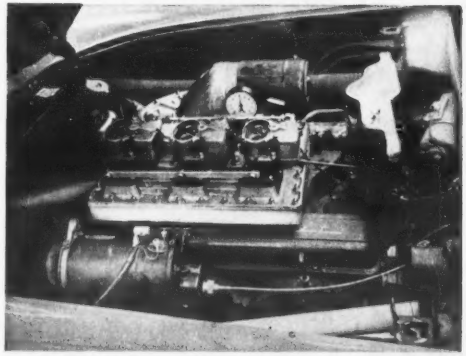
TYPICAL INSTALLATION



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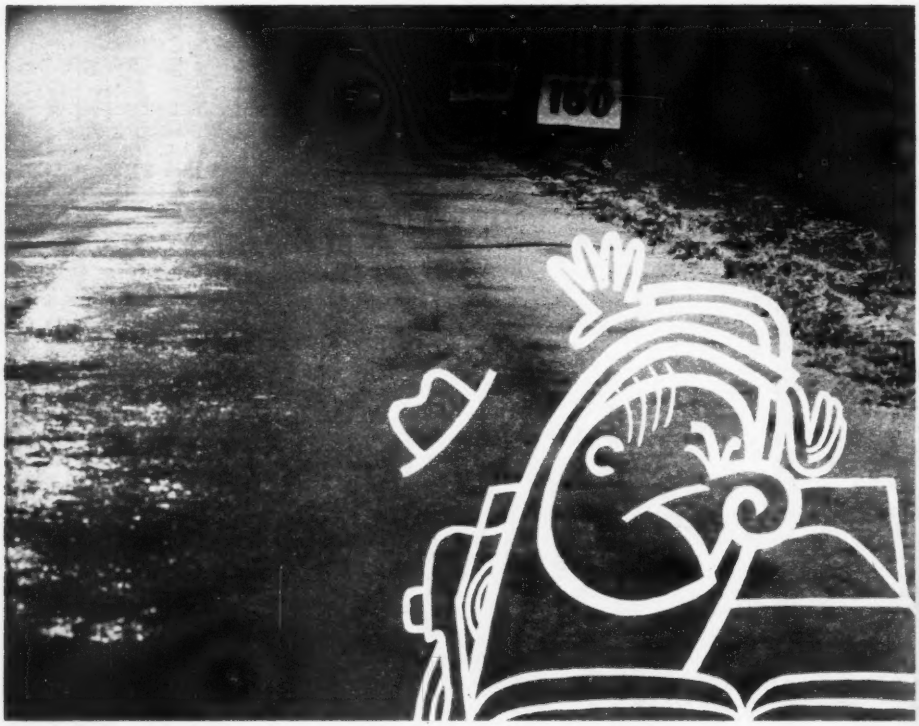

BRACE YOURSELF! Here comes another driver who hasn't dimmed his lights. He's 175 feet away. Your vision of your side of the road is "washed out" by his glare. Then after you pass, it takes precious seconds for your eyes to readjust to the reduced light, and you still can't see the road ahead clearly. It's like entering a dark theatre on a sunny day!

New G-E SUBURBAN Headlamps have

No other 2-headlamp system ever gave you as much light *in the low beam* as new General Electric SUBURBAN Headlamps. And you *need* more light in the low beam when meeting oncoming cars—even if the other driver dims his lights and has them aimed properly.

This new General Electric low beam filament is *optically centered* in the reflector—gives a "built-in spotlight" effect, puts more light where you need it to make passing easier and safer. Helps you recover your vision more quickly when the other car has passed.

Have a pair of new G-E SUBURBAN Headlamps installed and aimed by your

the other car's lights!

NOW YOU CAN SEE in spite of the other car's lights—better than ever before, because you have new G-E SUBURBAN Headlamps. Their "built-in spotlight" effect in the low beam projects more light along the right shoulder, helps keep your eyes on your side of the road. Now you can spot that fallen box at the 200-foot mark—which you *couldn't* see with old headlamps.

a "built-in spotlight"...in the low beam!

dealer, garage or service station! General Electric Co., Miniature Lamp Dept., Nela Park, Cleveland 12, Ohio.

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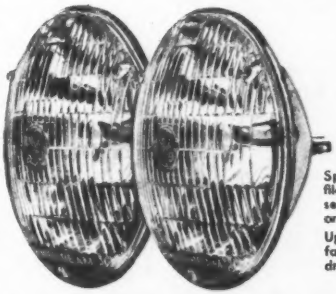
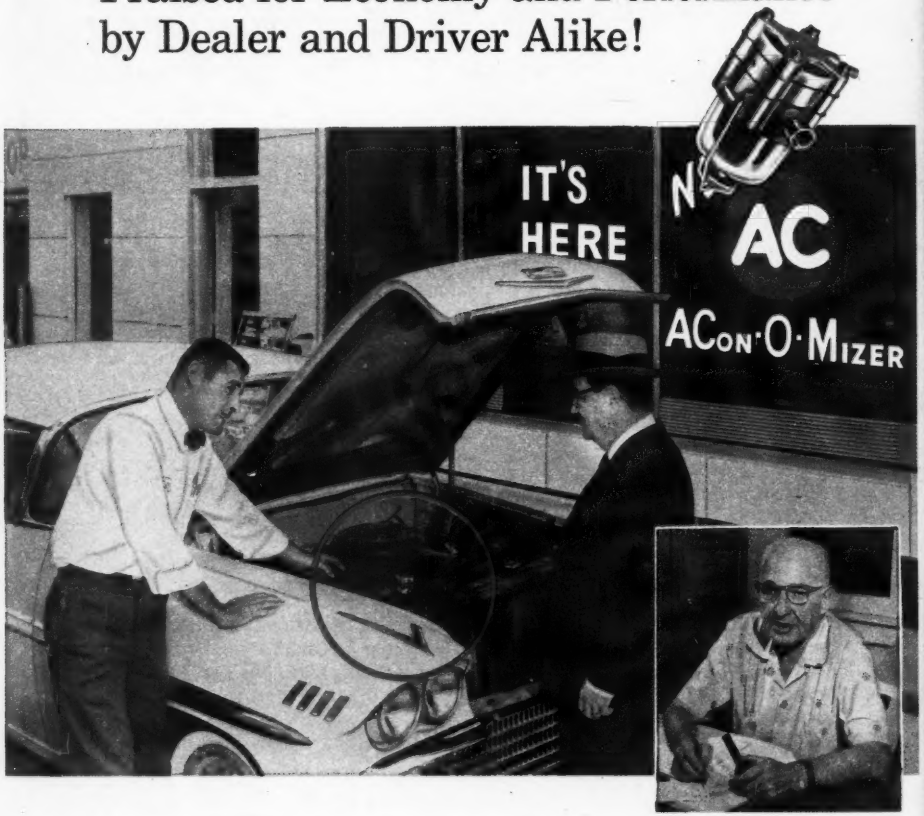


Special low-beam filament shield lets you see better in fog, rain or snow.

Upper beam reaches far and wide for safer driving on open road.

ACon-O-Mizer

Praised for Economy and Performance by Dealer and Driver Alike!



"I've tried all types of gas savers but the ACon-O-Mizer is the only one that really paid off," says Pat Travers.

"I HAVE INSTALLED 50 UNITS," states Mr. William Chapman, Manager of Rouse Brothers Standard Service of Flint, "and my customers invariably report better performance and smoother idling, plus greater gas mileage. They're so satisfied that I couldn't buy back the ACon-O-Mizers I've sold them!"

"I WOULDN'T TAKE 50 DOLLARS FOR MY ACON-O-MIZER," enthuses Mr. Pat Travers, Michigan Monument Sales Executive. "I frequently take a 300-mile business trip and I've upped my gas mileage, thanks to the ACon-O-Mizer. My car never ran better or smoother!"

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Used on More New Cars Than Any Other Brand

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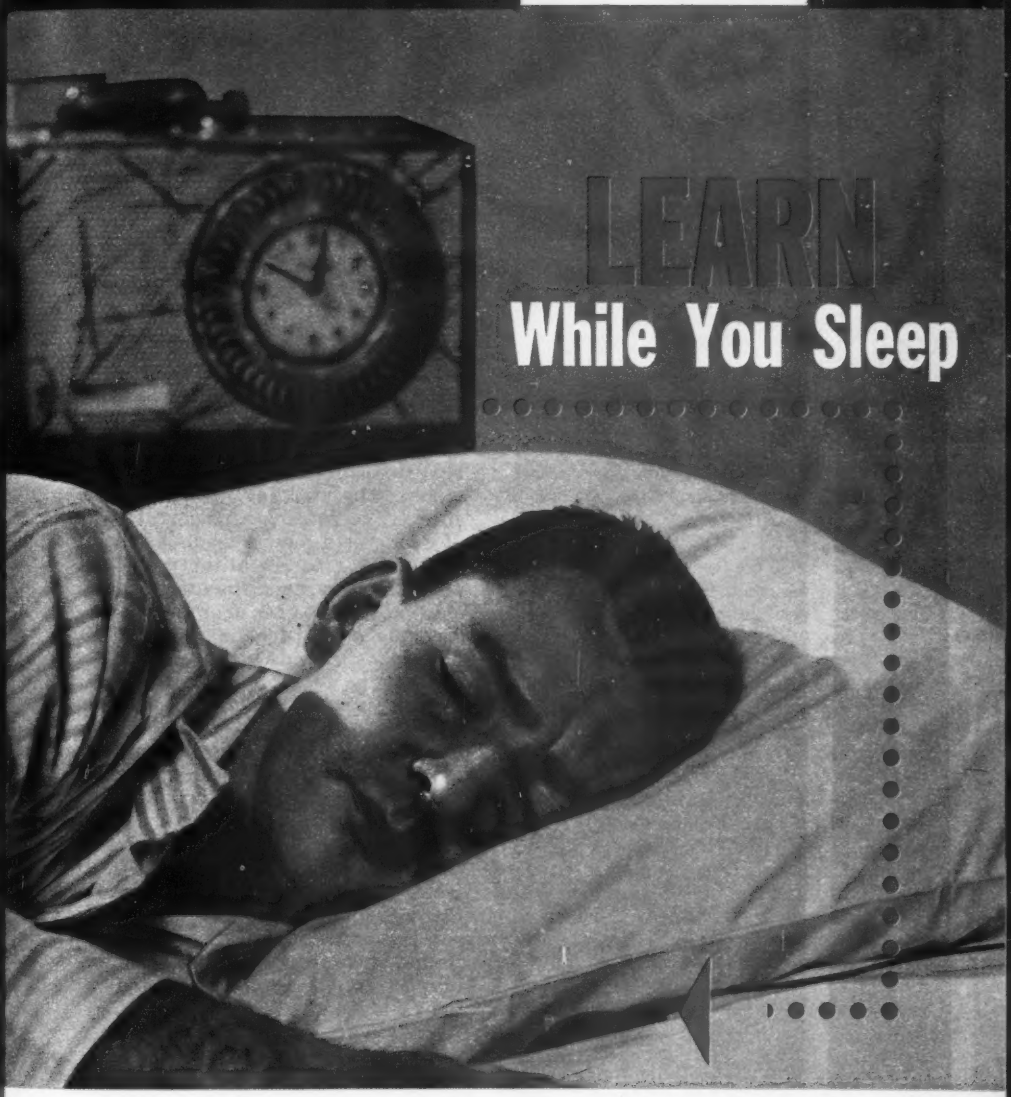
1958



By Lester David

The small voice under the pillow can teach you anything from self-confidence to college math.

HELEN McGRATH was fast asleep. At her bedside was a tape recorder, quietly repeating words into her subconscious mind. You'd never mistake the scene for a classroom, yet it was exactly that. Because Helen McGrath was learning Spanish while she snoozed!

For six and a half hours that night, one lesson was played over and over again, words and phrases burrowing deep into her mind. On waking, Helen played the lesson through once again.

Miss McGrath, a skeptical newspaper reporter for the Vancouver Sun in Canada, was conducting a personal experiment to find out whether sleep learning actually works. With no prior knowledge of Spanish, she sleep-studied the language for seven nights. On the eighth day she lunched with Frank P. Bernard, Spanish vice-consul in Vancouver, to test how much she knew.

To her amazement, Miss McGrath began identifying things on the table—in Spanish! She found she could converse in Spanish, haltingly but understandably. She was even able to read bits from a Spanish novel and magazines.

Commented Mr. Bernard: Helen learned as much Spanish in that week as a normal adult would get from six months of serious study!

Helen's experience, recounted in detail in her newspaper not long ago, may be astonishing but it does not stand alone. The startling fact is that sleep study is generating a powerful current of excitement among leading education authorities throughout this country and abroad. New experiments in the field are opening the eyes of eminent medical specialists and psychologists.

Here's a capsule view of what's happening:

● Controlled tests in leading universities are showing that people *can* learn while asleep. Experiments prove that foreign languages can be mastered more rapidly if wide-awake study is supplemented by snooze-study.

● Psychologists are teaching patients to "unlearn" bad habits ranging from over-eating to speech defects. Many mothers have reported significant success in training youngsters to stop thumb-sucking, bed-wetting and nail-biting through recordings played while the children slept.

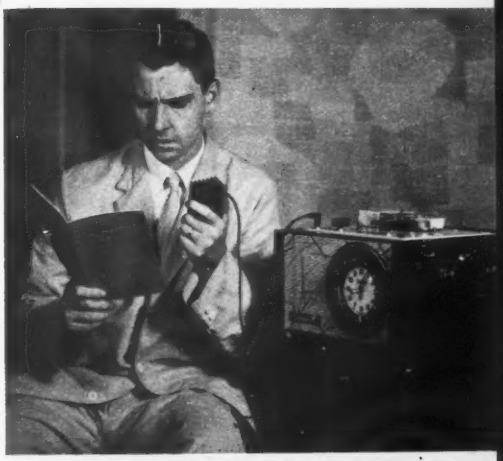
● TV actors, public speakers, ministers and opera singers are using sleep learning to become letter-perfect in their roles and speeches.

What is sleep learning, actually? How does it work, and why?

To get the answers, I spoke at length with Max Sherover, president of the Linguaphone Institute of New York and one of the pioneers in the field. Mr.

PRISON THERAPY innovator John Locke, far left, shows how the sleep earphone works. Center, Locke's assistants, Robert Lally, Edgar Price, explain system to Sherman Crowder (white shirt), superintendent of the Industrial Road Camps, Tulare, Calif. Earphone for sleepers is being demonstrated, at left.

MEMORY TRAINER, below, is tape recorder with playback device. You record material, set clock to repeat it while you sleep. Linguaphone of New York City sells machine. It comes with mike, under-pillow speaker, tape cartridge. Price is $199.50.



Sherover has coined the word "dormiphonics," defining it as a "new scientific method that makes quick relaxed learning possible, awake or asleep."

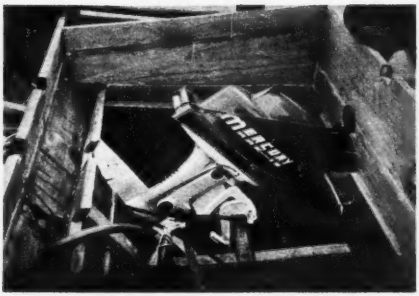
Dormiphonics, declares Mr. Sherover, works by "repeated concentrated impact of selected material on the conscious and subconscious mind." His firm markets two types of special equipment for the purpose.

The first looks like an ordinary four-speed phonograph and, to a point, it's just that. The machine spins commercially-prepared platters of anything the student wants to absorb but it has a special gizmo: there's a built-in electric clock which can be set so that the machine will start playing a recording at any designated time, keep it going as long as the listener wishes and stop exactly when he wants. If he wants it to start up again a little later, that can be arranged too.

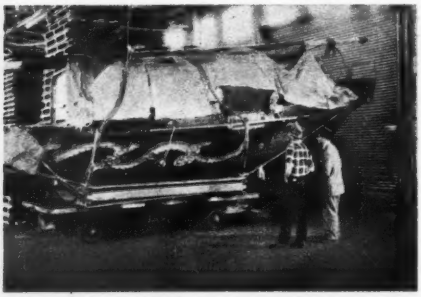
The second is a "memory trainer," actually a tape recorder and playback device with automatic gadgetry attached. Here a student makes his own recording of anything he wants to learn—speech, sermon, vocabulary, fact, figures. There is the same clock setup through which he can play it back when he wishes. Both machines are equipped with under-pillow speakers which only [*Continued on page* 161]

$5,000 W

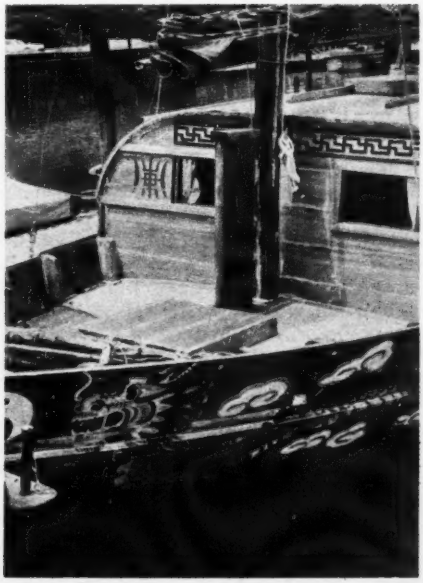
IF you have a yen for something different like Robert A. Street of San Francisco, Calif., you can buy a bona-fide junk imported from Hong Kong for $5,000. The 30-ft. junks have some minor innovations like wells for the twin 18-hp outboards you need when there is no wind for the rust-colored sails. The boats are made of Borneo hardwood with one-inch thick decks. You get a charcoal hibachi-type stove with the craft and table service for six, including bowls, chopsticks and tea cups. You also get a proven 2,000-year-old design in these serene boats. •



SAIL POWER is supplemented by 18-hp outboard engines when wind doesn't blow.



CRATED junk just off ocean liner is held in the warehouse for customs inspection.



DRAGON is name of family boat. Close-up shows portion of the bow deck and cabin.

JUNK'S interior has exotic paintings and oriental proverbs painted on walls, doors. Right, junk sails in San Francisco Bay.

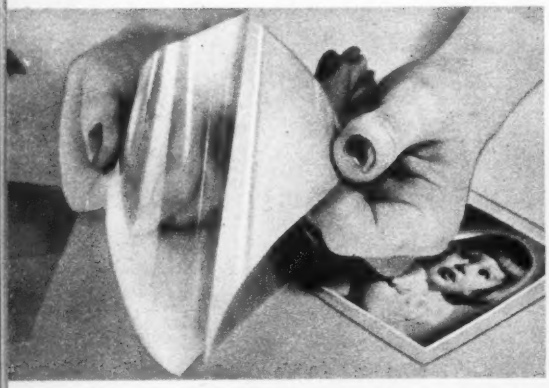
WORTH OF JUNK

MECHANIX ILLUSTRATED
BRIGHT IDEA AWARD

PLASTIC SEALING KITS

DO-IT-YOURSELF kits for sealing your favorite snapshots, cards or other items in translucent plastic against soiling and tearing win the spotlight this month. Each kit contains enough sheets of Celanese acetate to seal six photos. The kit is made by American Kleer-Vu Plastics, Inc., Maspeth, N. Y., and retails at Woolworth's for 49 cents. •

FIRST STEP (at left) is to part the two sheets, one of which bears the adhesive.

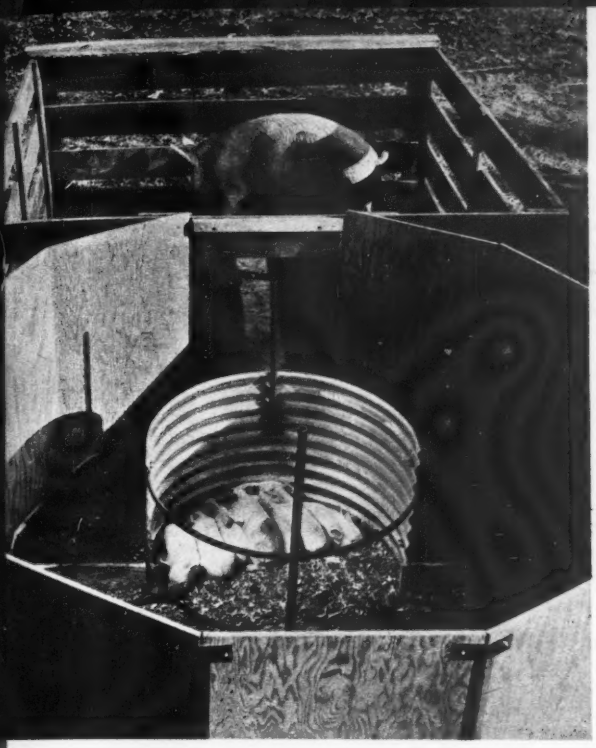


SECOND STEP (below) shows clear plastic top sheet added to card on sticky sheet.

WIN $50

MI will award $50 each month to the first person who tells us of a new and useful gadget that is patented and in production. Manufacturers are also eligible for this award. Pictures and a description should be sent to Bright Ideas Editor, Mechanix Illustrated, 67 West 44th Street, New York 36, N. Y.

THIRD STEP: finger pressure seals item. Trimming leaves ¼-in. border (top photo).



THEY CALL 'EM "PIGLOOS"

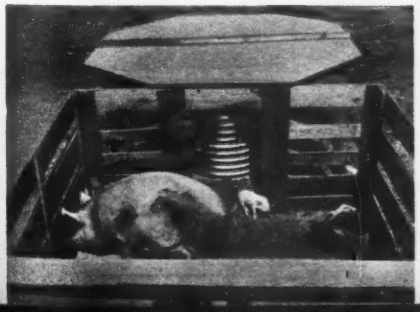
PIGLOO (roof removed in photo) is eight feet high with doorway to a small exercise pen. Roof lamp provides warmth in winter.

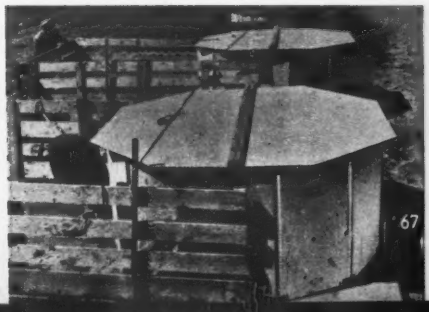
SCIENCE has taken a look at the pigpen and devised a revolutionary new system to raise young swine. Developed by Nutrena Mills, Inc., Minneapolis, Minn., the Pigloo is a prefab wooden structure designed to increase the low-cost production of hogs by protecting them from disease. It is said to cut breeding costs over 50 per cent. •

METAL BARS in three-foot circle prevents the sow from crushing her feeding piglets.

PREFABRICATED Pigloos are assembled on farm, are offered to farmer at $150 each.

INDIVIDUAL units are set ten feet apart to prevent transmittal of disease germs.

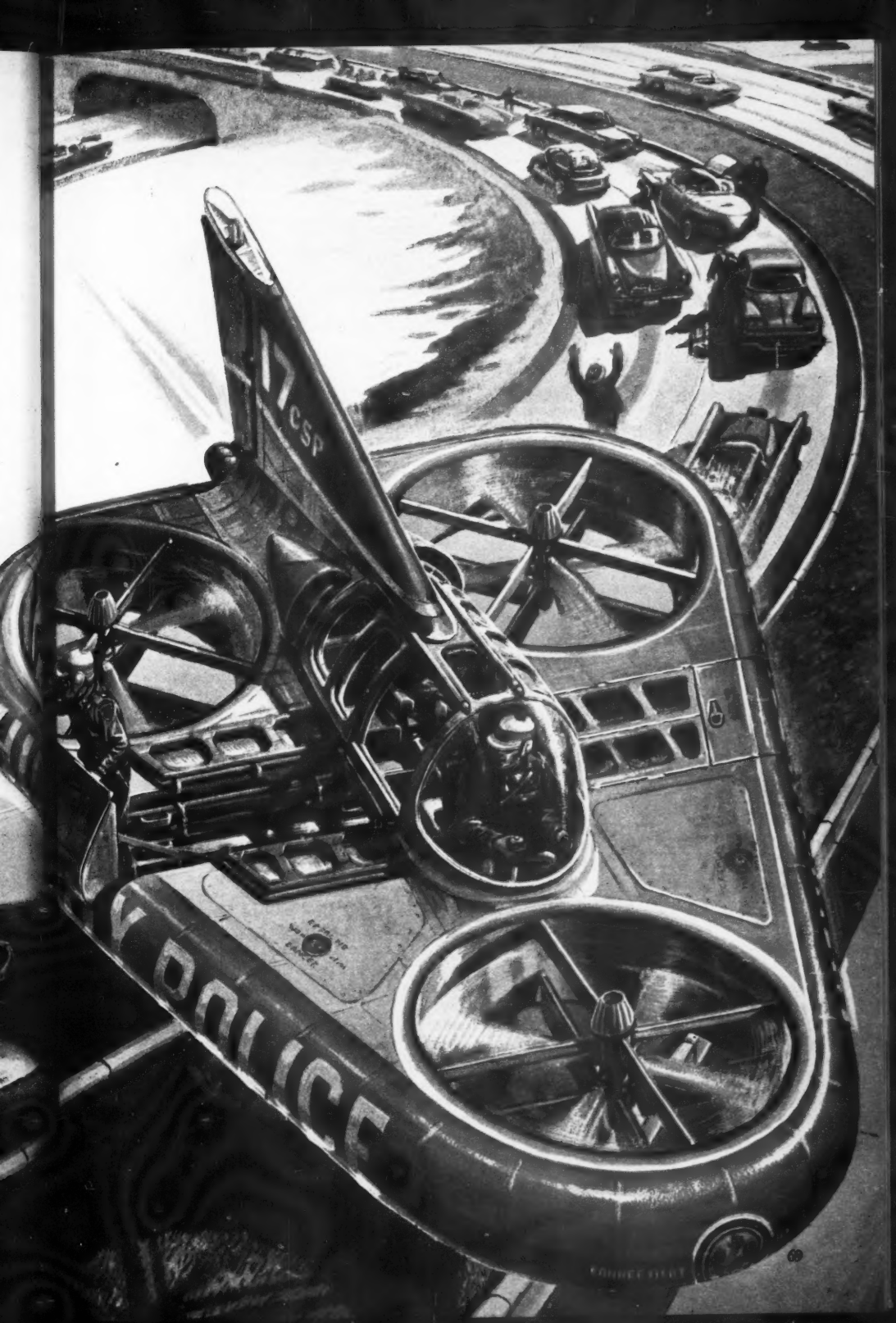




Copter Cops

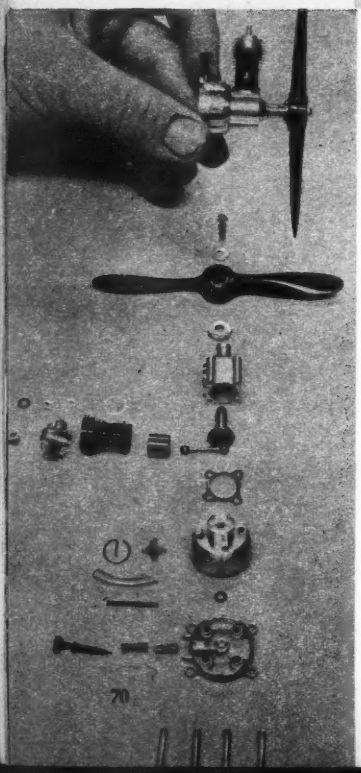
By Frank Tinsley

TODAY'S high-speed turnpikes require ground-bound traffic police to take to the air and graduate to the status of "Copter Cops," mounted in a vehicle that could speed safely above the car-choked roads and provide a bird's eye view of driving conditions and dangers. Such a vehicle could go far beyond the utility of the present patrol car. It could control traffic speed, clear jams at bottle- [*Continued on page* 152]


17 CSP
POLICE

MONEY MAKING IDEA

MODEL MAN Cox with planes, race car, hydroplane.



BABE BEE .049 gasoline engine with all its precision machined component parts. Tiny engine retails for $3.95.

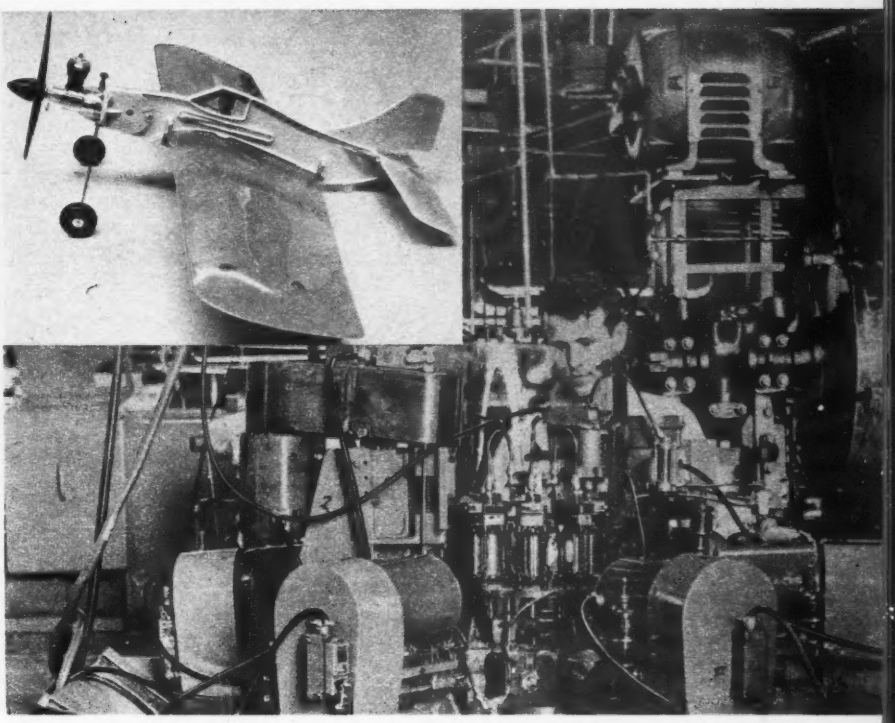
HE RUNS A

By Louis Hochman

THE world's largest manufacturer of miniature gas engines is the L. M. Cox Co. of Santa Ana, Calif. President Leroy M. Cox's line of powered model airplanes and engines, the Thimble Drone Power models, has revolutionized the gas-powered model and served as a powerful and beneficial stimulus to the rest of the industry.

As a leader in the Tom Thumb aircraft industry, grossing some $2,500,000 in 1957 and well on the way to topping $3,000,000 in 1958, Cox's tiny gas engines have earned a Rolls-Royce reputation in their field.

It all began in 1945 when Cox got into the toy business by making wooden pop guns in his home. By 1946 he had promoted a small 4,000 sq. ft. quonset hut factory and was solidly launched in his career,



FLIGHT TRAINER, $7.95, inset, and automatic nine-operation machine at the Cox plant.

MODEL BUSINESS

thanks to the success of a new product, a small, all-metal toy race car which he had originally built for his then five-year-old son.

In August of 1946, Cox had 20 people on the payroll and was turning out 1,500 cars per day. Christmas orders were in and production had gone into high gear. Suddenly, without warning, disaster struck. Some accidentally-spilled paint thinner caught fire and within 12 minutes the entire factory was reduced to an ash heap. Nothing was saved except some office machines—and the precious orders.

Cox, caught without insurance and no plant or machinery to fill his orders, refused to throw in the sponge. He appealed to his creditors and received an extension of credit to allow him to use some incoming money to re-establish himself.

Cox then bought a small lot and in four days time had a quonset-type building thrown up on it. By October 15th, just two months after the big fire, the Cox organization was back in business, fully tooled and geared for double the production of the pre-fire days. He managed to fill every Christmas order, plus many others received during the reconstruction period, without missing a single deadline. He paid off all his creditors and grossed a phenomenal $200,000 volume that first hectic year!

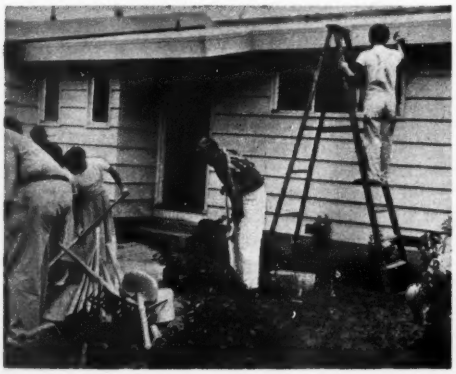
The following year, he improved on his race car by coming out with a larger and better one—about 12 inches long—that looked so much like a scaled-down track racer [*Continued on page* 154]

CONSTRUCTION CREW—students in many specialized fields—and the house they built.

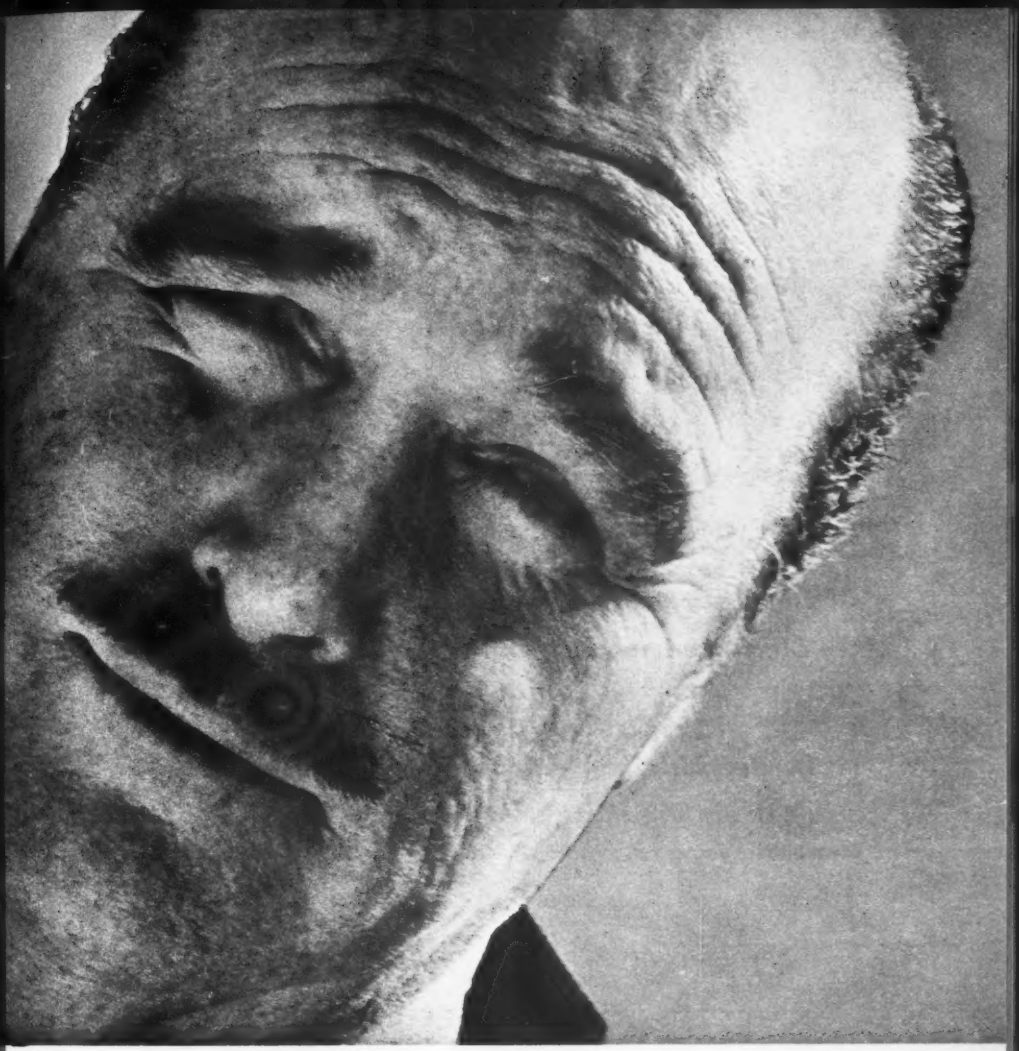
STUDENT-BUILT HOME

HOUSES built by the students of Whittier Vocational High School, Calif., are auctioned off when finished and trucked away by the proud owners, who generally pay a price above the cost of construction. The money is used by the high school to buy materials for the following year's project. The practical experience gained by vocational students on these projects is recognized as valuable by such crusty pros as the local carpenters' union leaders, who give A-students a one-year credit on the four-year apprentice period. The homes are completely finished by the students, including those in architectural drawing, photography, carpentry, painting, home ec, electricity. •

HORTICULTURE students work on landscaping as student painter works on trim.



PAINTERS work on ceiling while home ec girls plan a tasteful furniture arrangement.

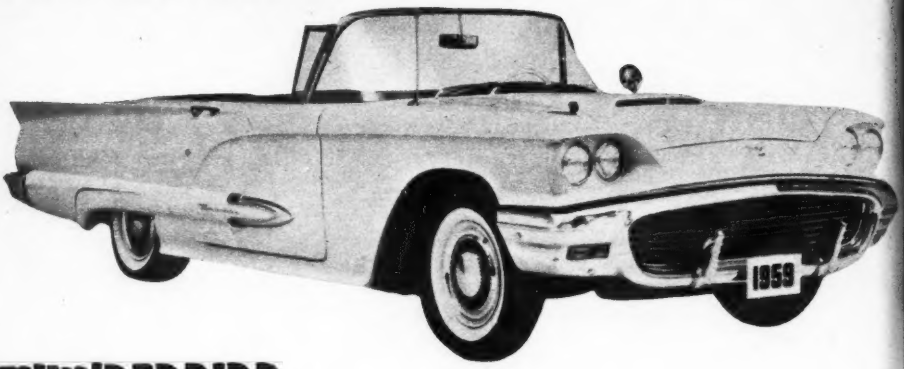


McCAHILL

PREVIEWS THE '59 CARS

Beefed-up engines, new suspension systems and dream car styling are the big changes for '59.

THE '59 CARS



THUNDERBIRD

"It will stick with its '58 design but may offer a Lincoln engine later in '59."

PLYMOUTH

"Loaded with innovations and providing a quality ride that's tops in its field."

FORD

"Big bull's-eye taillights are the main styling change for '59."

By Tom McCahill

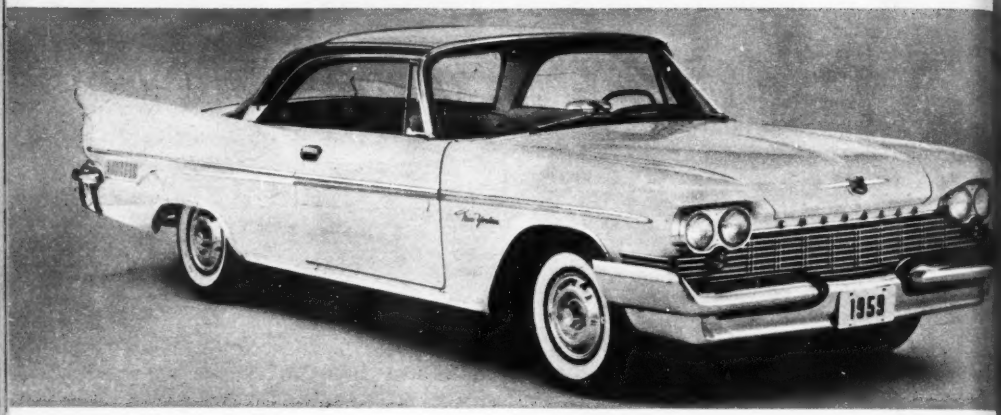
IT'S likely that 1959 will go down in automotive history as the year that automobile manufacturers—hurt by the '58 sales slump—went all out to whet the appetites of the car-buying public. Beefed-up engines, new suspension systems and dream car styling are just three of the goodies offered with the hope of starting those "low down payments" rolling in once again.

The following is an introduction to the top 1959 cars released as of this date. If they don't hit you right between the eyes and start you grabbing for your wallet, a lot of Detroit automobile men will be oiling up their squirrel guns and heading for the woods. A guy's got to eat *somehow*.

Plymouth for 1959 is the best car of the low-priced three, in our baldheaded opinion, and we've tested all of them. The new model retains its top quality ride, the best in its field, and it may prove to be the only '59 car which has actually improved in performance. The looks of the new sports sedan (on which we will soon bring you a full test) are tops. The Plymouth is loaded with innovations such as front seats that swivel to the side for easy entrance and exit. The general finish has been upgraded so it ranks with any of the top medium-price offerings.

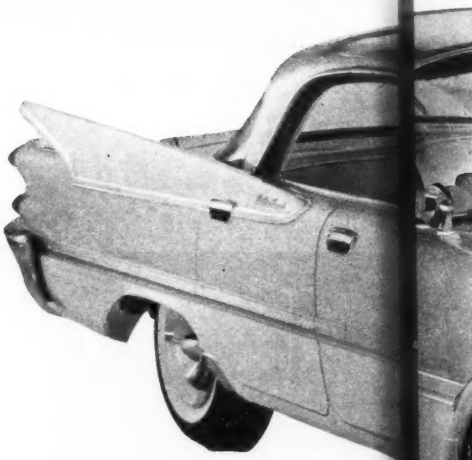
The writer drove a new Plymouth at a full 120 mph for over 40 miles and has never had a more comfortable high-speed ride in

THE '59 CARS



CHRYSLER

"The New Yorker sports a huge 413-cu. in. engine but has less overall weight."



IMPERIAL

"It's still the best in handling quality and driving comfort."

his life. This car is equipped with the "395" Golden Commando 361-cu. in. mill and has 10:1 compression ratio.

Ford, the originator of ball-joint suspension in the Big Three class, is still a top-flight handling car when equipped with coil spring suspension. However, the suspension has been lightened up this year, which has taken away some stability. The styling, though changed completely, nevertheless retains a certain amount of Ford looks from the past. The taillights, which one top Ford official told me hurt sales in '58, have been altered to big bull's-eyes. There has been no improvement in over-the-ground performance over the '58 models, possibly due to increasing the weight while retaining the same engine sizes.

This year Ford is featuring a cheaper version of Ford-O-Matic, a two-speed job which saves in weight and parts, being simplified considerably. Also available is another transmission called the Cruise-O-Matic, teamed with a 2.92 rear axle. The Ford-O-Matic is standard with a 3.56 axle. Wheelbase is 118"; tread 59" front, rear 56.4"; overall length 208"; overall height 56"; width 76.6"; weight 3,665 lbs.; 332-cu.-in. displacement; 4.0 bore x 3.3 stroke; 20-gallon gas capacity; 7.50x14 tires.

The Chrysler line consists principally

DODGE

"Restyled roof and rear windows plus a new front end. A six-cylinder engine offered in addition to V8."

THE '59 CARS

PONTIAC

"Complete restyling may prove to be the Looks King of the '59 models."

OLDSMOBILE

"Longer, wider, bigger glass area; an engine that has been upped to 394 cu. in."

of the Windsor, Saratoga and New Yorker, plus the hairy-chested 300E. The Windsor and Saratoga have 383-cu. in. engines with 10:1 compression ratio. The big New Yorker will sport a 413-cu. in. mill, as will the 300E. Despite this increased engine size, they will weigh 100 lbs. less than in '58 which will improve weight distribution.

In '59, Chrysler has added optional rear air suspension to their top-flight torsion suspension. Having driven some of the vehicles, the writer can only comment that the air suspension doesn't seem to have done any harm. Instrument panels have been changed considerably. Also featured is an "electronically-controlled rear view mirror." Gad! New Yorker wheelbase is 126″; overall length 220.9″; overall width 79.5″; overall height 57.5″.

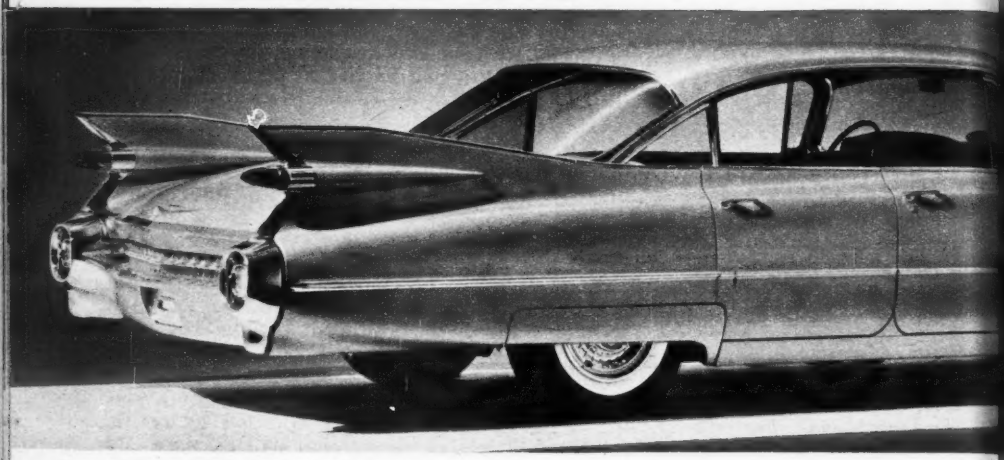
Imperial was our choice as the greatest car built in America in 1958. I've seen nothing to alter this opinion in 1959. In a short test ride I gave the new Imperial, there was no breakdown of top handling quality despite its air suspension, even at speeds as high as 122 mph. The instrument panel has been completely reworked. The power plant has been upped in size from 392 cu. in. to 413, with 10:1 compression ratio and 100 lbs. less weight in the engine.

When I asked an Imperial man about the rear air suspension—used as an addition to regular leaf springs—he said the principal function was to keep the car level regardless of the trunk load. If the new model handled any better than the '58, I failed to find the difference. However, last year's Imperial was far advanced over the competition in handling and driving ease, and its superiority will probably remain unchallenged through '59.

Dodge has undergone heavy styling changes in 1959 yet maintained some of its former characteristics, such as the broken nose profile of the tail line. On the four-door hardtops, the roof and rear windows have been re-styled and the front end is as new as next February's cold. Dodge will offer a six-cylinder engine in addition to its V8. The six-cylinder job will displace 230 cu. in.

The Dodge Coronet standard V8 is a 325-in. mill, and on the Royal, Custom Royal and station wagons the power plant is a 361-cu. in. V8 with a compression ratio of 10:1. Also available on all models will be the 383-cu. in. D-500 engine, which brings us to the conclusion that Dodge has an awful lot of en-

THE '59 CARS



CADILLAC

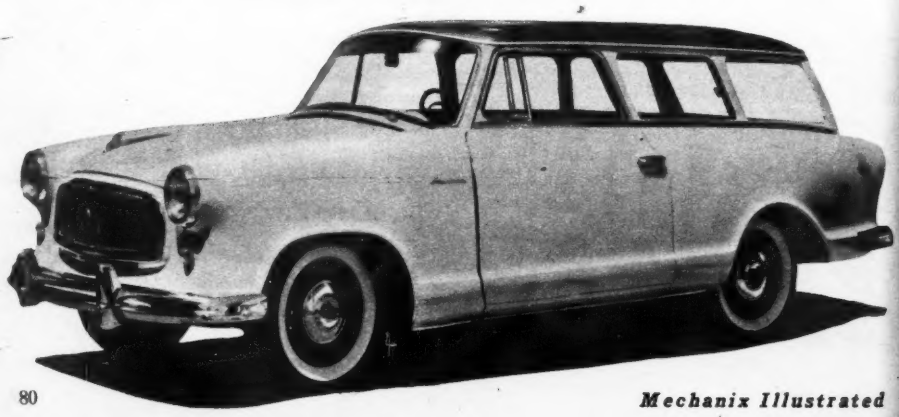
"Styling on '59 models has been upgraded

gines. Wheelbase is 122"; overall length 217.4"; overall width 80"; overall height 56.6".

Pontiac for 1959 has undergone complete restyling, to such a thorough degree that if the nameplates were removed, not one automobile man in 1,000 could tell you that the product was made by General Motors, much less that it was a Pontiac. They've come up with what may very well prove to be the Looks King of the year. Pontiac is the performance champion of the General Motors camp. This is the car that ran

RAMBLER AMERICAN

"Will add a station wagon that should prove a hot item."



throughout the line to resemble former Eldorado design."

away with the performance trials at Daytona Beach in '58 and they'll again be the cars to beat in 1959. Powered by a great 389-cu. in. engine that gets them over the ground like a greased missile, the Pontiacs are the rulers of the traffic light Grand Prix.

All Pontiac engines, regardless of set-up and horsepower, are the same displacement size and they'll feature a slightly de-tuned version for economy driving that will be undetectable in outward appearance from the hottest jobs they put on [*Continued on page* 143]

AMBASSADOR

"Keep your eye on this job—weight and power ratio may make it a real performance champion."

The '59 Chevy

"Styling is as wild as you've seen . . . just as different as Santa Claus without a beard . . . That rear deck is pure Louis Armstrong—gone, man, gone! What a spot to land a Piper Cub."

By Tom McCahill

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NEW IMPALA is almost two inches longer and wider than '58 model, weighs 200 lbs. more.

YOU don't need a Gallup Poll or a complete report from the Electoral College to know that Chevrolet must be considered the American buyer's Number One Choice. No other manufacturer in the world, for that matter, has pumped out as many cars over the past 20 years as this General Motors division.

In 1957, after holding Top Spot for 21 years without a break, Chevrolet was toppled from the throne by Ford. But in 1958, with a completely re-styled automobile, Chevy recaptured the sales ball from its perennial opponent—and judging from the 1959 styling changes, it looks as if the Chevrolet boys have made a truly extreme effort to retain possession of the mythical production trophy.

The car on which I ran most of my tests was the big Impala with the 348-cu. in. V8 engine and air suspension. This is the Queen Mother of the camp and as wild a departure from earlier models as Santa Claus without a beard. The rear-deck treatment is pure Louis Armstrong—gone, man, gone! Instead of last year's neatly sculptured, somehow sort of foreign-looking backside, the view from the rear is strictly Spaceship 1989. It carries tremendous horizontal fins which hover over teardrop-shaped tail light clusters to give the whole thing a kind of two-story effect. My first reaction when I saw this rear flight deck,

TEST CAR SPECS

MODEL TESTED: **Chevrolet Impala four-door sports sedan**

ENGINE: **V8** cyls; **348** cubic ins; **280** brake hp; **355** ft-lbs max torque; **9.5** to **1** compression ratio. Bore **4.125** ins; stroke **3.25** ins; Fuel required: Premium. Standard axle ratio: **3.08**. Wheelbase **119** ins; length **210.9** ins; height **56** ins; width **79.9** ins; front tread **60.3** ins; rear tread **59.3** ins. Weight **3,878** lbs. Gas tank capacity **20** gals. Turning circle diameter **40.2** ft. Tire size **7.50 X 14.**

PERFORMANCE: **0-30** mph, **5.2** secs; **0-60** mph, **13.1** secs; **40-60** mph, **6.2** secs. All times recorded on corrected speedometer.

STEERING WHEEL, designed for good view of instruments, has sharp vertical angle.

which curves downward from either side in a slow V, was, "What a spot to land a Piper Cub!" It's crazy—but craziness in good taste.

Up front the treatment is also as different as anything you ever saw in a Chevrolet. The four-eyed look is gone. The dual headlights, which last year were mounted slightly above the front point of the sweep spear along the side of the body, have been lowered quite a few inches and are now placed at either end of the grille. Above the grille are narrow slits that look like air intakes, but aren't, and the directional lights have been tucked into the outside corners of these slits.

In last year's report on the Impala I men-

ROADABILITY is not as good as last year, says Tom. He blames increased weight for somewhat sluggish handling.

UNCLE TOM and Editor Bill Parker compare reactions to "the most radical styled of all in the new model year."

HUGE WINDSHIELD, which Tom calls "Goldfish Bowl style," curves up into roofline, gives tremendous visibility.

HUBCAPS have been slotted for better brake cooling—a trick Chevrolet learned from experience with racing cars.

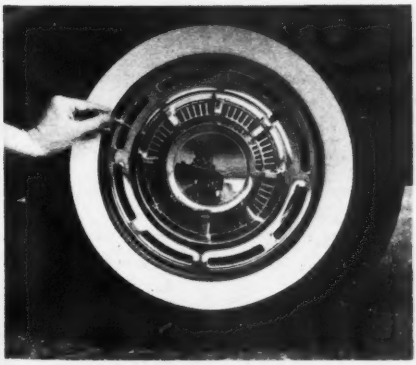
REAR LICENSE swivels out to reveal gas tank filler cap. Back end of '59 Chevy has a "Spaceship 1989" influence.

tioned the chrome fish-scalers on the front fenders and pointed out that they were so sharp they "could nick the casual do-it-yourself body polisher right across the wrists where the arteries are." I recommended that they be remodeled with a sledge. I doubt if the Chevy stylists used a sledge but they did blunt the sharp edges and achieved a safer, sleeker, longer and lower look for the '59 version of these ornaments.

Another thing that will stop you dead in your tracks when you first see this '59 Impala is the enormous area of glass, front and rear. The windshield curves way up and into the roof in really advanced Goldfish Bowl style. The rear window, also only slightly smaller than the big ones at Macy's 34th Street bazaar, looks very much like the one on the new Buick we tested last month. As the lead picture of this article shows, the combination of front and rear plate glass provides tremendous visibility and a quick way to get suntanned.

To test the '59 Chevrolet, MI Editor Bill Parker joined Jim McMichael and me for our trek to the huge GM Proving Ground at Milford, Mich. After being escorted [*Continued on page* 146]

TRUNK TESTER Jim McMichael seems dwarfed in the enormous cargo space, may have to consider two-man tests.



SECRETS OF GROUSE HUNTING

By Wynn Davis

A FEW men hunt grouse without dogs, yet bag their limit every time they go out, often after hunting only for a few hours. In the same general area, other grouse hunters will scour the woods all day with well-trained dogs and return at night, tired, hungry and complaining about "the lousy shooting."

The answer, of course, is that most men don't know how to locate grouse even when the woods are loaded with them. And the reason they can't find birds is because they have an

entirely wrong conception of them.

The big secret of grouse shooting—which few hunters realize—is the fact that ruffed grouse are *walkers* and not fliers. Take a look at their legs. They are strong and powerful, designed for walking. Then examine their wings. These are short in comparison to the heavy body and built for quick, swift flight, not long journeys.

Once you know this you won't waste time tramping the hardwood ridges looking for birds. You'll hunt for places in the range where all the necessities of grouse life are within walking distance in an area of several hundred acres. Spend your precious time hunting the jackpots, the big grouse concentrations. And remember, solid blocks of big timber rarely produce enough grouse to make hunting worthwhile.

Grouse require six things to keep them happy. These are good roosts, fresh water, choice food, gravel for their craws, safe ground cover and warm, sunny dusting places. They like to roost in evergreens before the snow comes, preferably balsam and hemlock. Choice foods are clover, grapes, hawthorns, apple seeds, beechnuts, acorns and many seeds. They find plenty of gravel along dirt roads and exposed sides of hills and ridges and usually dust on the south or windward sides of hills or rises.

All of this should be confined within 100 to 300 acres, in order to attract a grouse concentration. Grouse are seldom if ever found far from good cover into which they can dive for safety when enemies come along.

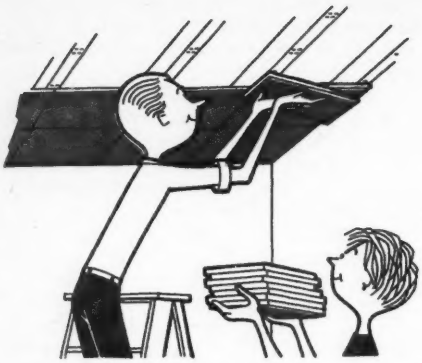
GROUSE dropped in clover patch by author, left and below, made mighty tasty repast.

A good grouse hunter will stalk areas that meet the six essentials for grouse life. Grouse are happiest when these are in cut-over forests with thickets of evergreens scattered through the hardwoods. Look for places where all of the following conditions exist: lowland cedar thickets and nearby ridges of aspen trees and birch, where small clearings are filled with old apple trees, hawthorns, berry bushes, briar patches and clover, all close to good, safe ground cover—and within the required limited area. Then look for a long abandoned road that winds haphazardly into the woods and along the ridges.

However, all these places aren't grouse grounds. Some may have been good a year or two ago and be vacant now. The reason is that heavy concentrations of grouse attract predators during the winter months, especially great horned and barred owls and bobcats who (along with disease) do far more harm to the grouse populations than hunters.

In the fall, all you can do is hunt the likely looking spots and eliminate the duds by trial and error. Even so, knowing what to look for puts you way ahead of the other fellow. The real time to find the grouse is in the spring—April or May, depending on where you hunt. That is when the boy grouse spark the girls. And they are not the least bit quiet or shy about their wooing. That's when you should get in your car and take a nesting census of the likely spots in the area you plan to hunt the next fall. Where the most wooing goes on in the spring, you'll find the most birds, come autumn.

To take a nesting census, set your alarm clock to ring in time to allow you to dress, have a cup of coffee and arrive at the closest likely spot before 4:30 a. m. Within a few minutes of your arrival you should hear the first tom-tom like throbbing, soft and far away, sounding on the still air. "Thump . . . thump . . . thump . . . thump, thump, thump, thump, brrrrrrrrrrr!" That's the sound that [*Continued on page* 159]

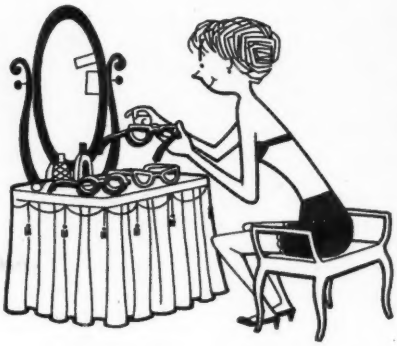


REMOVABLE CEILING TILE fitted with snap fasteners could be taken down and cleaned. Jeanne Holwager, Commiskey, Ind.

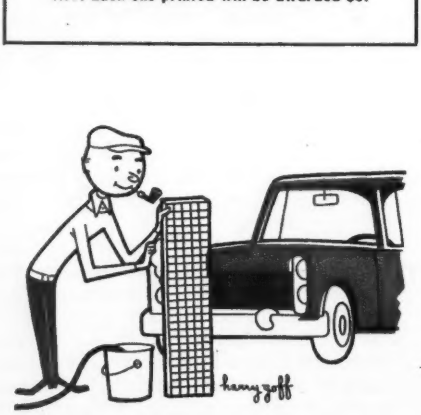
EDIBLE TAPE would be a great boon to midnight raiders who like to build Dagwood sandwiches. J. C. Taylor, Portland, Conn.

INVENTIONS WANTED!

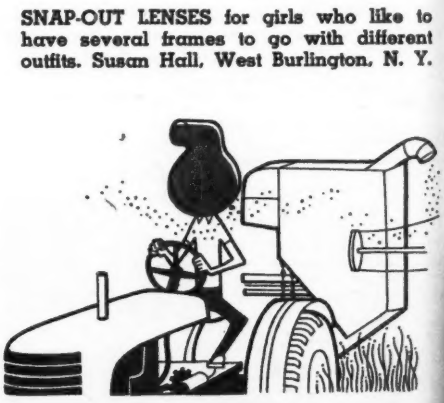
Is there a gadget you think should be invented? If so, send its description to Inventions Wanted Editor, MECHANIX ILLUSTRATED, 67 West 44 St., N.Y. 36, N.Y. Each one printed will be awarded $5.



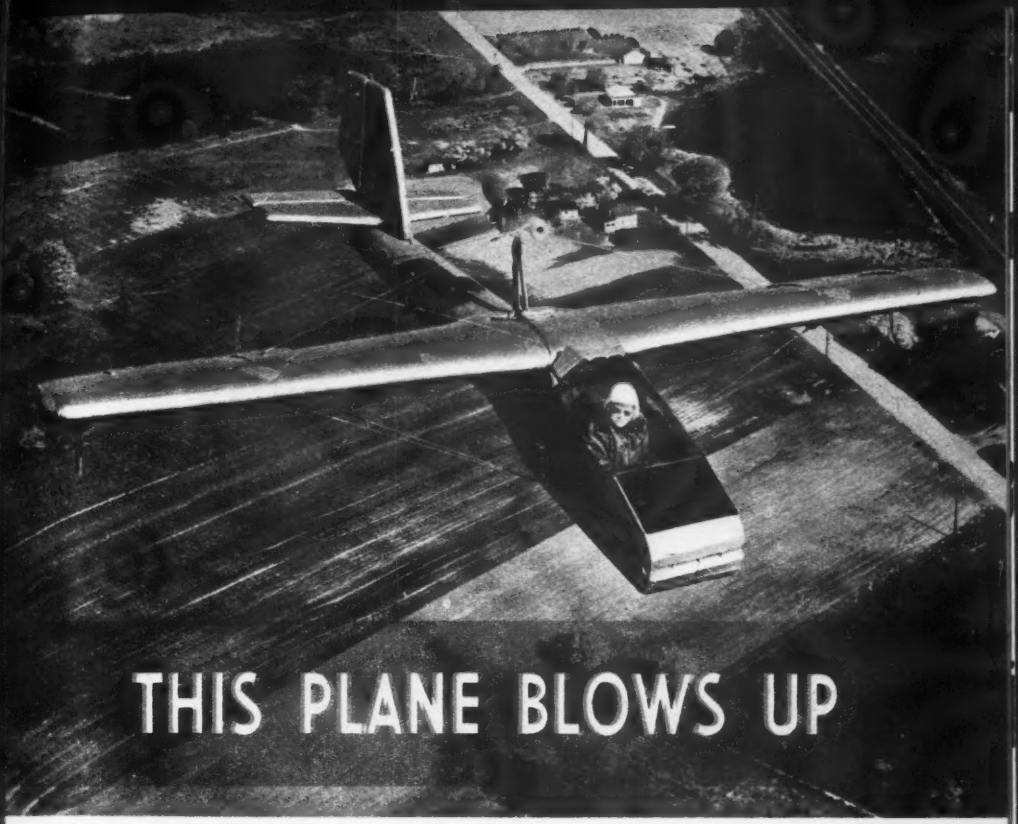
SNAP-OUT LENSES for girls who like to have several frames to go with different outfits. Susan Hall, West Burlington, N. Y.



SNAP-OUT GRILLES that would cut down cleaning time for the spit-and-polish car owner. Larry J. Ealy, Traverse City, Mich.



PLASTIC BUBBLE to be worn by combine operators to keep chaff out of eyes, ears, nose and neck. Billy Elvin, Douglas, Wash.



THIS PLANE BLOWS UP

INFLATOPLANE is a single-seat rubber craft which is blown up with compressed-air pump.

BLOW it up and then fly it. That's all there is to taking off with the new Inflatoplane developed by Goodyear Aircraft Corp. Deflated, the plane can be carried in the back of a station wagon. Wing, tail, assembly and pilot's seat are made of Airmat—joined layers of inflatable rubber-coated nylon fabric.

The rubber craft can be pumped up in a few minutes and requires less air pressure than is used in four auto tires. A two-cycle, 40-hp engine mounted above the wing powers the little ship, which requires more than 300 ft. to take off. It is said to have a lot of bounce to the ounce. •

COMPACT ship is easily handled by two men, left. Plane is partially pumped up, center, and requires less than 20 minutes preparation before it is ready to take off, right.

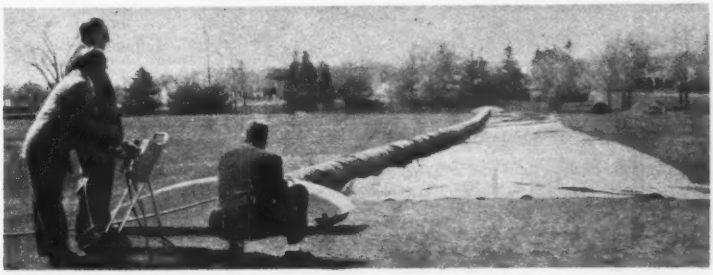
IT'S NEW

COP ARMOR passes a rigid test in Detroit as inventor Harvey Freeman lets bullets sink into the 60-lb. plastic shell. Note headlights for night cops.

SAP SACKS are now replacing buckets in our sugar maple groves. Unlike the sack dress, these are filled up, likely to stay.

LIGHT HOUSEKEEPING is really possible with this new Danish plastic furniture.

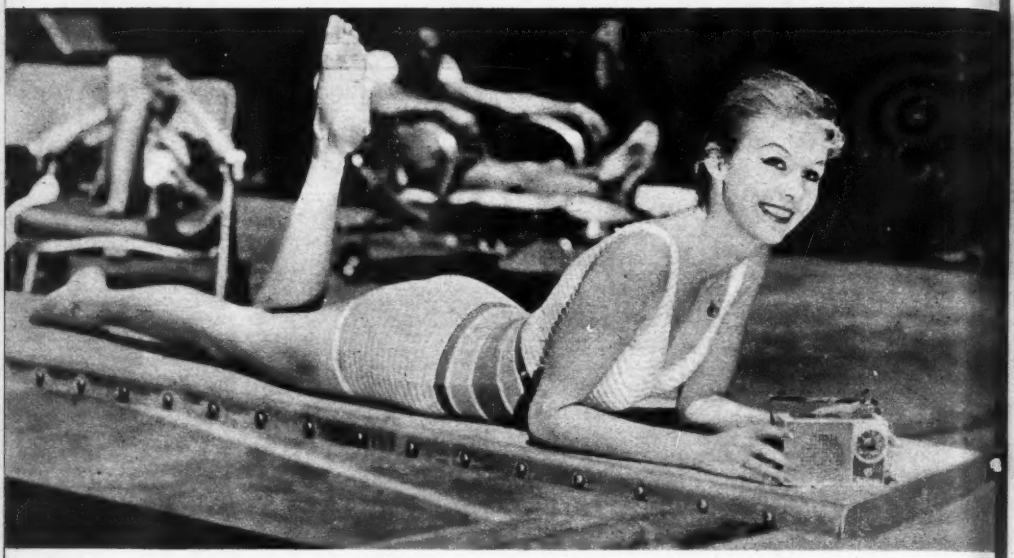
AQUA-LITE, cousin of famous Radar-Lite, is a new underwater lamp for skin divers.



TARPAULIN SPREADER, automatic, is demonstrated to officials of the Milwaukee Braves. Motor-driven spreader covers the infield in 52 seconds.

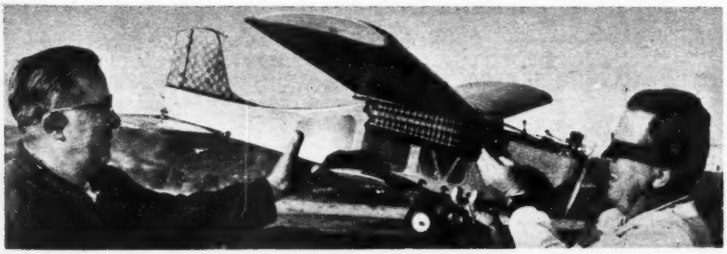
TANK AHOY! Waterproofed Centurion Tank in landing exercises on the British coast looks more like a boat than a tank as it heads for the beach.

CONTINUED . . .



SOLAR RADIO introduced recently by Hoffman Electronics Corp., Los Angeles, uses sun or artificial light or long-life, four-volt mercury battery.

LONG-RANGE CHAMP is this model plane built by Kenneth A. Willard, right, of Van Nuys, Calif. RC model stayed up for five and one-half hours.

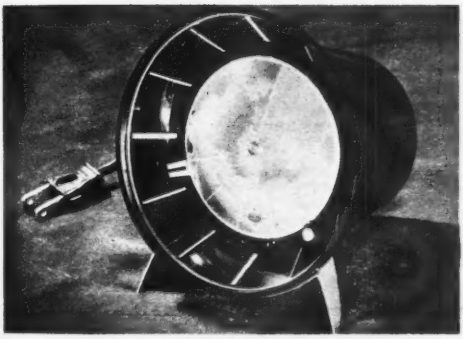


LEAFSAVERS for loose-leaves are pressure-sensitive; slogan is "Stick 'em, don't lick 'em."

BOWLER'S BLINDERS are worn to keep distractions on the other alleys from rattling him.

LIGHT FLATTERY is the effect of this new glareless light bulb, according to Westinghouse engineers. The bulb is coated inside with electrostatic silica.

LIFE RAFT that puts up its own canopy, provides a boarding platform that makes saving your own life easier, is a development of U. S. Rubber Co.



SATELLITE CLOCK, the latest in timepieces, has a moon minute hand circling a golden earth.

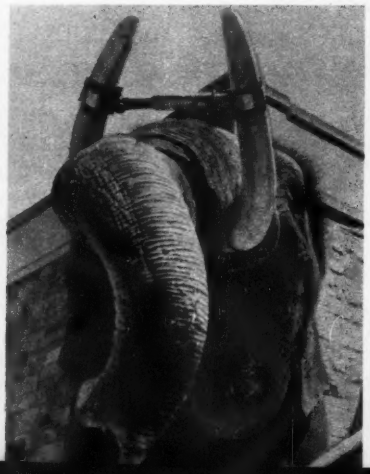
INFRARED HEAT screen of plastic provides nice warmth around cribs, sun bathers on cool days and wherever a supplementary heat source is necessary.

CIRCLE-CYCLE ½-hp mill turns outer tire on ball-bearing rollers. West Va. high schoolers built it.

EYE STOPPERS

HOOD buttons on collar of waterproof and wrinkleproof suit shown in Paris.

TUSK BRACE keeps Washington Zoo's Ashoka's ivory from squeezing trunk.



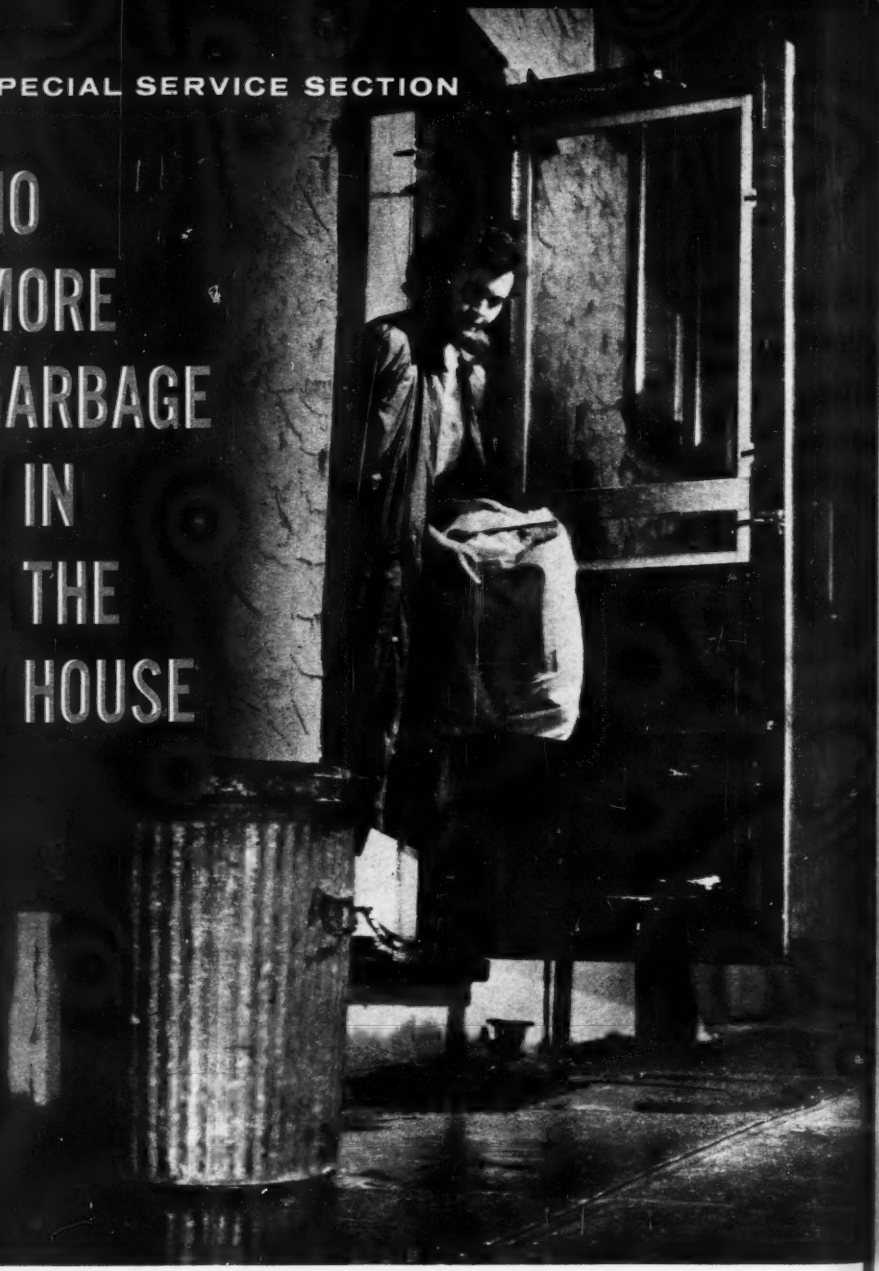
S
ustrate

THAT tidy tool set hanging in MIMI's cupboard costs only $49.95 at department stores. Called the Diligent Duchess, it's a lady's kit—22-carat gold-plated tools fitted to a damsel's daintier dukes. "Now your wife won't be using your golf trophy to drive nails," says MIMI. Pendleton Tool Industries, Los Angeles, Calif. •

MIMI

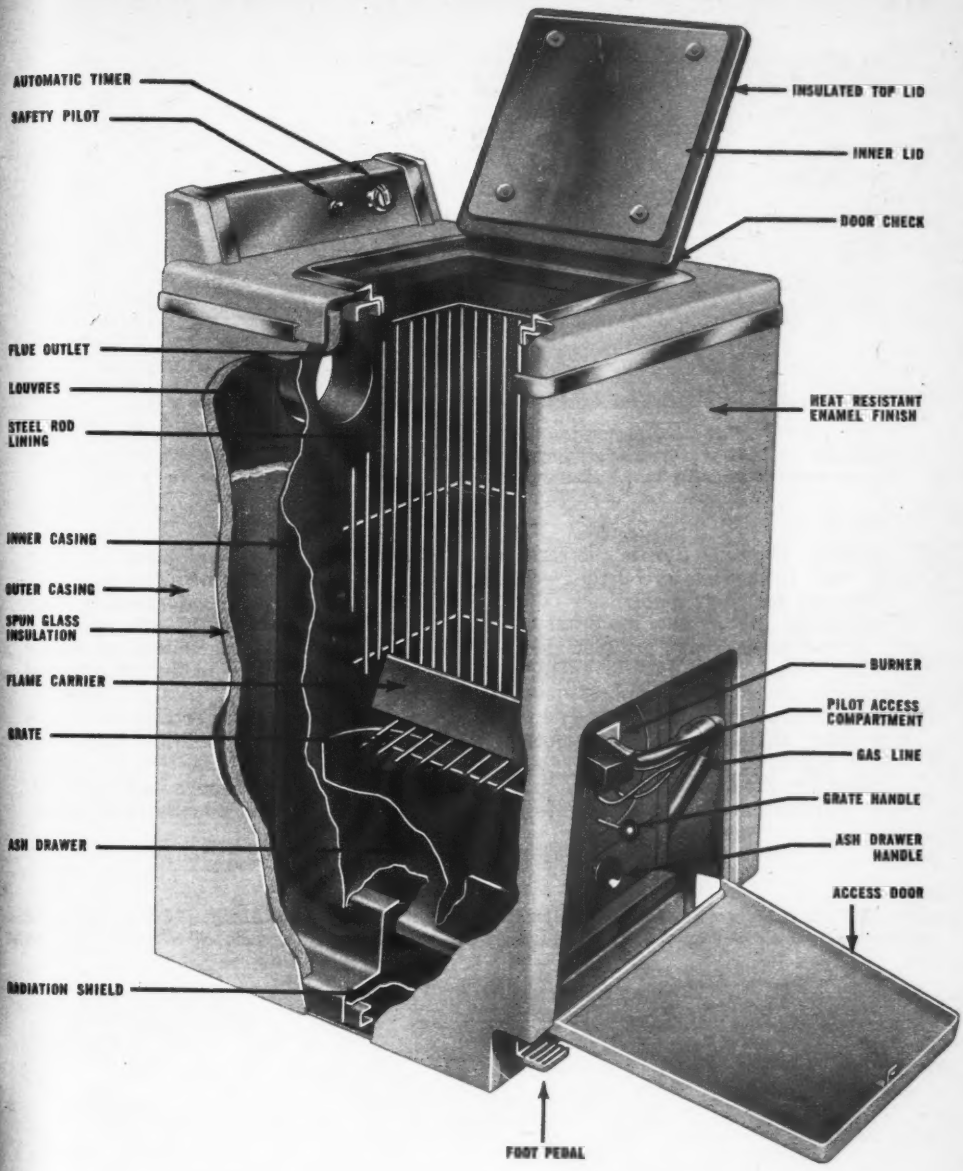
SPECIAL SERVICE SECTION

NO MORE GARBAGE IN THE HOUSE



By Lyman Gaylord

Modern gas-fired incinerators are tolling the death knell of the garbage can by providing a thorough, clean, silent method of burning waste.

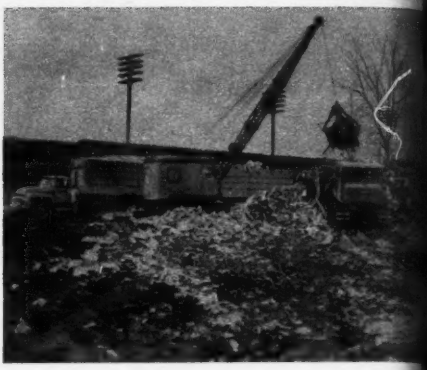


WHILE no home owner would think of using the living room to store piles of trash, old newspapers and bags of food scraps while awaiting the garbage man, most of us *do* tolerate miniature dumps in our kitchens, basements, or back yards. Until recently we've had no choice in the matter, but now we can get rid of the whole fly-attracting, fire-tempting mess with a smokeless, odorless gas incinerator.

These units, which install practically anywhere, reduce a pile of garbage to a handful of ashes safely and automatically. Open the incinerator door, drop in the trash, turn the thing on and forget it—it shuts off automatically when the rubbish has been consumed.

The new incinerators combine efficiency and absolute safety with smart

HOLD A MATCH over a smouldering object to see how fire actually burns smoke away.



UNSIGHTLY city dumps could be eliminated if home incinerators were widely used.

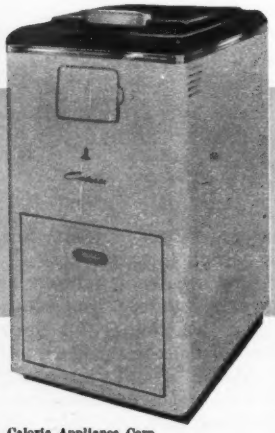
styling. They use a principle right out of the jet-age—after-burning—which accounts for their smokeless, odorless operation. Here's how it works:

Trash and garbage are placed in the unit where fire and air turbulance achieve almost total combustion of all waste, including steak bones. The unit's primary chamber is vented, not to a flue, but to a second burning section called the after-burner. Here a gas fire of blast-furnace intensity ignites the *smoke itself,* thus eliminating the main objection to garbage incineration.

That the new incinerators really work as claimed is shown by the fact that several big industrial cities, including Detroit and Cleveland, have approved them for home use. Also, the consequent elimination of garbage cans gives promise of cleaner, healthier and more attractive communities.

In Los Angeles, where people are almost pathologically touchy about smog,

CALORIC features Jet-Stream action that burns away smoke.

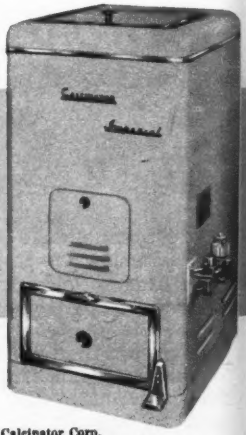


Caloric Appliance Corp.
Jenkintown, Pa.

WASTE KING, a smokeless and odorless unit, costs $129.95.

Waste King Corp.
Los Angeles, Calif.

CALCINATOR'S burner fires waste at two stages. $169.95



Calcinator Corp.
Bay City, Mich.

IT'S EASY to operate gas incinerators. First, remove previously burned ash (photo at right represents a week's accumulation). Then deposit garbage and set timer control dial. The units turn off automatically when all waste material has been burned.
Martin Stamping & Stove Co., Huntsville, Ala.

the new incinerators are still illegal. There is a good possibility, though, that the smokeless models may be approved if given the opportunity to show their worth.

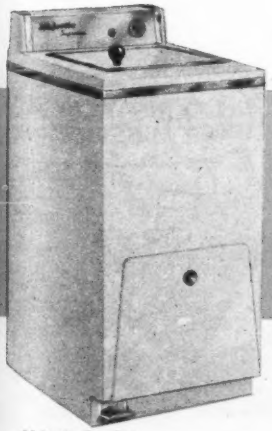
A sizeable quantity of waste can be taken care of in a single loading or "charging" of an incinerator. The average capacity of units now on the market is 1½ bushels. One model is rated at a full two bushels—more than twice the daily waste accumulation of the average family.

Of course, wet garbage will take longer to burn than dry waste. Average burning time for wet loads is from one to four hours depending on the quantity and [*Continued on page* 110]

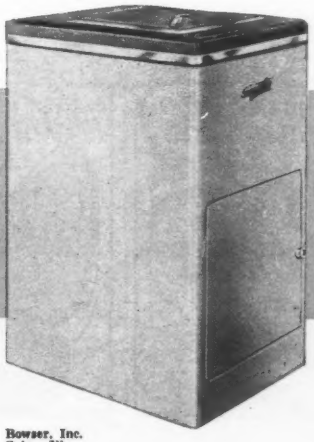
MAJESTIC unit is smartly styled, will go in any room.

SMOGMASTER has air induction draft control. $179.50.

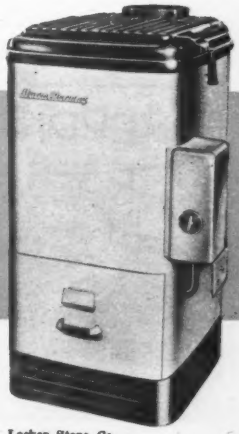
WARM MORNING has firebrick lining, double burners.



Majestic Co., Inc.
Huntington, Ind.



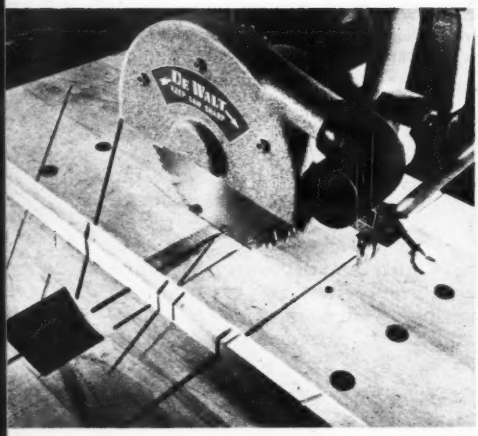
Bowser, Inc.
Cairo, Ill.



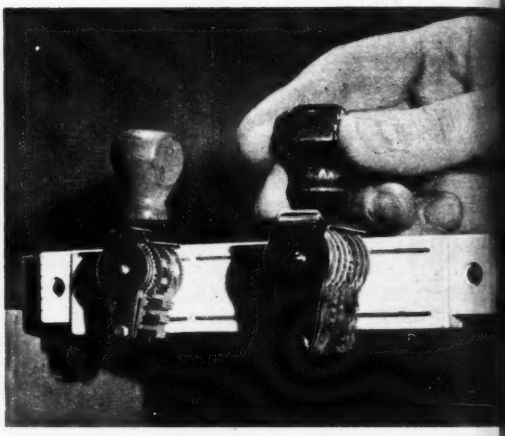
Locker Stove Co.
Kansas City, Mo.

HOME And SHOP TIPS

HOT IRON facilitates removal of asphalt floor tiles by softening adhesive on back.

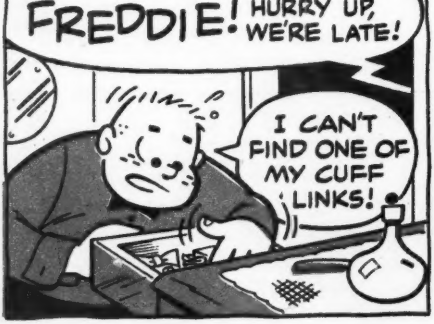


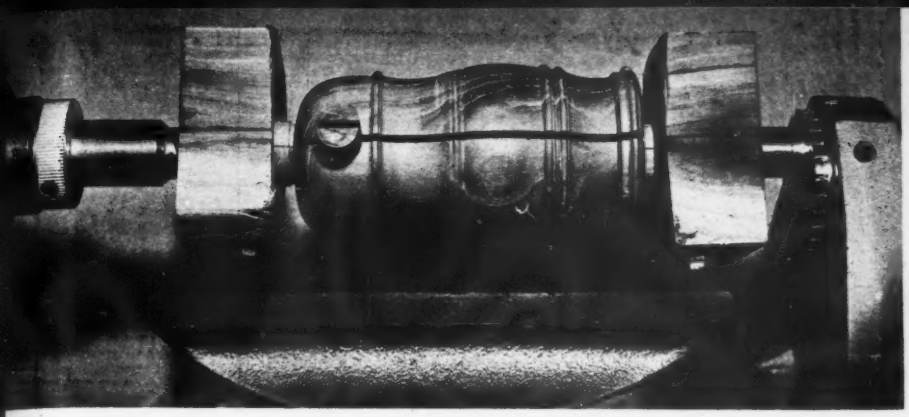
SHALLOW slit in saw table positions blade for resetting of the scale without pretesting.



MAGNETIC cutlery rack makes an ideal holder for any metal-framed rubber stamps.

FREDDIE FUMBLES



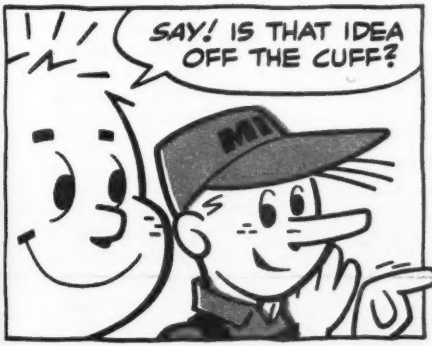


SPLIT TURNINGS can be made without gluing by bolting together through the end stock.

HAMMER HANGER is pure simplicity—a slanted nail over which the claws hook.

INSTALL wood panels between studs when building to ease curtain-rod installations.

Send Freddie Fumbles your idea of a good short-cut, time-saver or safety device in your work, whether it be in the home, shop, office or farm. Each tip accepted will be paid for at the rate of $10. Naturally we cannot acknowledge or return the ones we cannot use. However all will be carefully read and evaluated. (Those which we can use in other departments of MI will be paid for at our regular rates.) Please send in your ideas on a post card only. Address to Freddie Fumbles, *Mechanix Illustrated*, 67 W. 44th St., New York 36, N. Y.



HOW TO DOUBLE YOUR OIL MILEAGE

ABRUPT RELEASE of accelerator pedal closes the throttle, creates vacuum in each cylinder which sucks oil from crankcase.

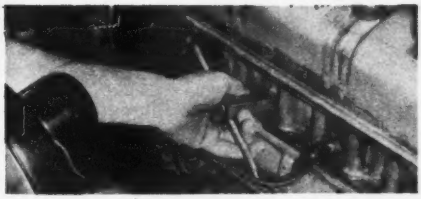
OIL mileage is a barometer of engine and car efficiency. If you're burning oil you're burning money.

It's true that oil is cheaper than repairs. But truth can trip you now and again. Maybe there's no reason to gripe over buying a quart every time you fill up the gas tank, but the catch is that the high oil consumption is a warning that something is wrong. You're really paying for more than extra oil.

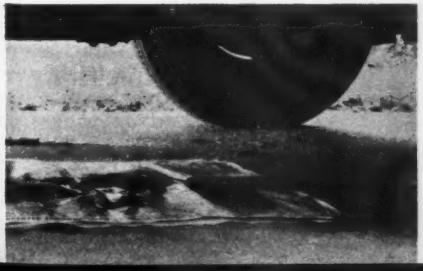
A car may be an oil hog because of bad driving habits. Nervous drivers usually get poor mileage because they are so erratic with the accelerator pedal. This is good news for any driver because it can be reversed to stress the added advantages of skillful driving.

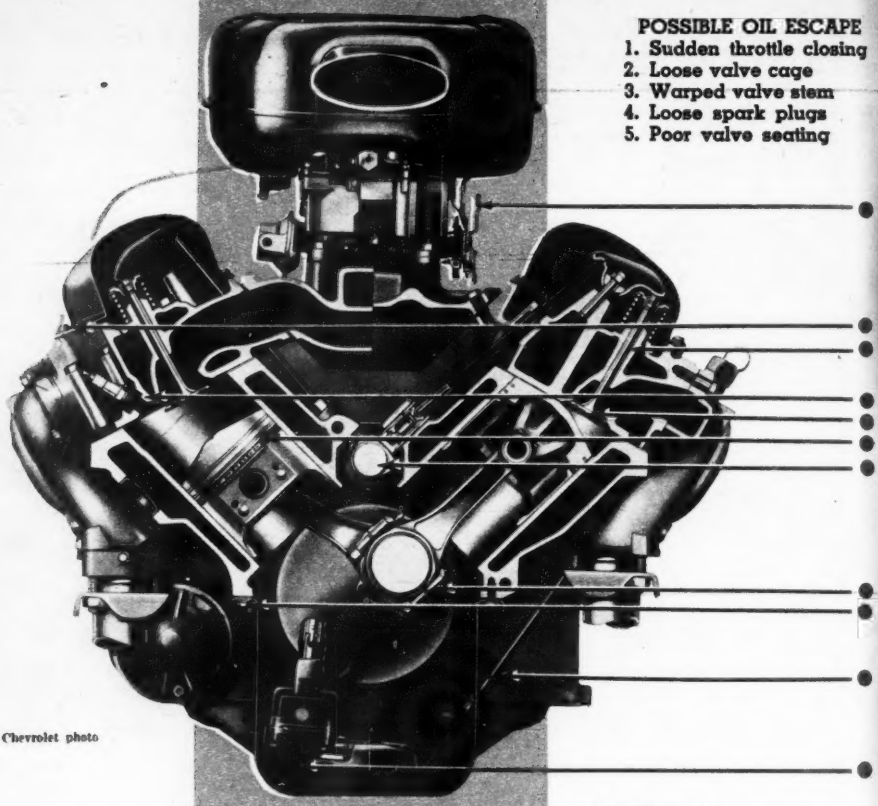
Oil mileage that takes a nose dive is

By Frederick C. Russell
Member, Society of Automotive Engineers



LOOSE PLUGS or faulty gaskets, top left, allow oil to be sucked into the cylinders. High oil consumption increases carbon deposits, makes it necessary to check ping by retarding spark, top right. Oil may leak past rear main bearing and its retainer, bottom left. Loose valve cover plates or defective gaskets also allow oil leak, should be checked, bottom right.





POSSIBLE OIL ESCAPE

1. Sudden throttle closing
2. Loose valve cage
3. Warped valve stem
4. Loose spark plugs
5. Poor valve seating

Chevrolet photo

OIL FILTER also cools; when clogged, oil bypasses it, operates hotter and burns off faster.

6. Worn rings
7. Worn valve tappets
8. Worn bearings
9. Loose crankcase
10. Loose dip stick
11. Low oil level

too often blamed on piston rings. Sure, oil will be wasted if the rings are sticking or if they are worn. But many a case of low mileage turns out to be leakage.

Then there is low mileage from using the wrong grade of oil, not to mention not having enough oil in the engine. Excessive oil pressure is a big factor, especially in a fairly new engine. Overheating has [*Continued on page* 105]

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We have been forced to sacrifice $140,000 worth of merchandise to raise cash for boatloads of imports from Europe. Look over the values below—new, first quality merchandise at OUR LOWEST PRICES IN 12 YEARS! Satisfaction guaranteed or MONEY BACK. These bargains available ONLY by mail ONLY from THORESEN, Inc., 585 Water Street, New York 2, N. Y. **Mail coupon**

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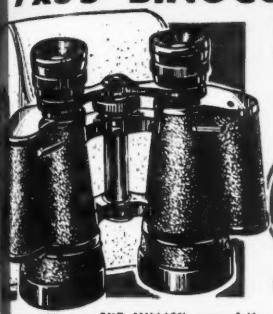

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Same Type as Formerly Adv. on TV for 19.95

7.99 FREE Home Trial

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DeLuxe Model with JEWELED tip, copper filter, heavy-duty electric cord. Same features as in a $24.95 Model. Only $9.99. No. 95-D

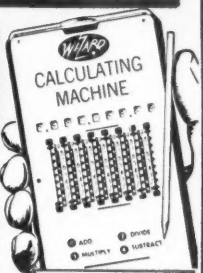
ADDING MACHINE

ADDS, SUBTRACTS AND CALCULATES

ONE BILLION!

NOT $3.98

1.98



Save $2.00 on this pocket adding machine in world. Why pay $3.98 for models that add to 999,999 when the Wizard Calculator goes to ONE BILLION—one thousand times higher—yet costs only $1.98! 100% accurate—never makes a mistake! Unbreakable in normal use. Slim, sleek. Fits pocket or purse. Comes with stylus ready to use. Has clearing lever that clears machine to zero in split-second! Check bills, homework, scores. Save dollars at market. Know your bill before you reach check-out counter! 3½ million pocket machines in use here & abroad. Wizard Calculator sold ONLY by mail, ONLY by Thoresen's. **No. 118 $1.98**

DeLuxe Model in carrying case with built-in memo pad. Only $2.98, No. 118-D

ELECTRIC MAGNIFIER

Lights Up As It Magnifies!

$1.00

Powerful imported lens — magnifies five times larger. Extra brilliant light illuminates object viewed. Examine stamps, coins, currency, signatures, fingerprints, photos, machine parts, jewelry. Read "fine" print in contracts, leases, policies. Operates on standard flashlight batteries. **No. 610.....$1**

Now ½ price!

5 inches long when open

25,000 sold at $1.98

NOW ONLY **$1**

9 tools in one! File, Utility Knife, Tapper, Scissors, Corkscrew, Can Opener, Screwdriver, Bottle Opener, Jackknife. Rugged Korium steel. Ring Holder. Bone Handle. Fits pocket yet opens to 5 inches long! This is original Korium knife sold only by Thoresen's! **Order by No. 114**

SMALLEST PORTABLE RADIO in the WORLD!

- NO TUBES! • NO BATTERIES!
- NOTHING TO PLUG-IN!

Never Wears Out! Fits Pocket or Purse!

5.99

So tiny—tucks away in pocket or purse. Carry with you everywhere—only 5 ounces! No batteries. No tubes. No plug-in. Completely personal earphone reception. Genuine crystal germanium diode rectifier NEVER WEARS OUT—works even when power failure makes other radios go dead! Enjoy thrilling programs, music, sports, news without 1¢ cost for batteries, tubes, etc. Not a kit. Comes complete—ready to operate. Precision-made, with earphone to give you private listening without disturbing others—even in bed! Smart waterproof carrying case included. Wonderful gift for over-active boys and girls because it WON'T BREAK like expensive tube radios. Get yours now on FREE home trial!

No. 182 ..... $5.99

GIANT PLASTIC DROP CLOTH

108 Sq. Feet—Only $1

Huge 9x12 plastic sheet (108 sq. feet) for only $1. Protects carpets, floors, upholstery, outdoor furniture, garden tools, bikes, boats, cars, air conditioners, washers, etc. Used by car mfrs. to cover new 1959 autos. Use as drop cloth when painting; to make transparent auto seat covers, furniture slip covers, etc. Waterproof. Dust, grease, dirt & tear-resistant. One piece. Seamless. Cut with shears; heat-seals with electric iron! **One sheet for $1, 3 for $2.65, 6 for $4.98 Order by No. 4**

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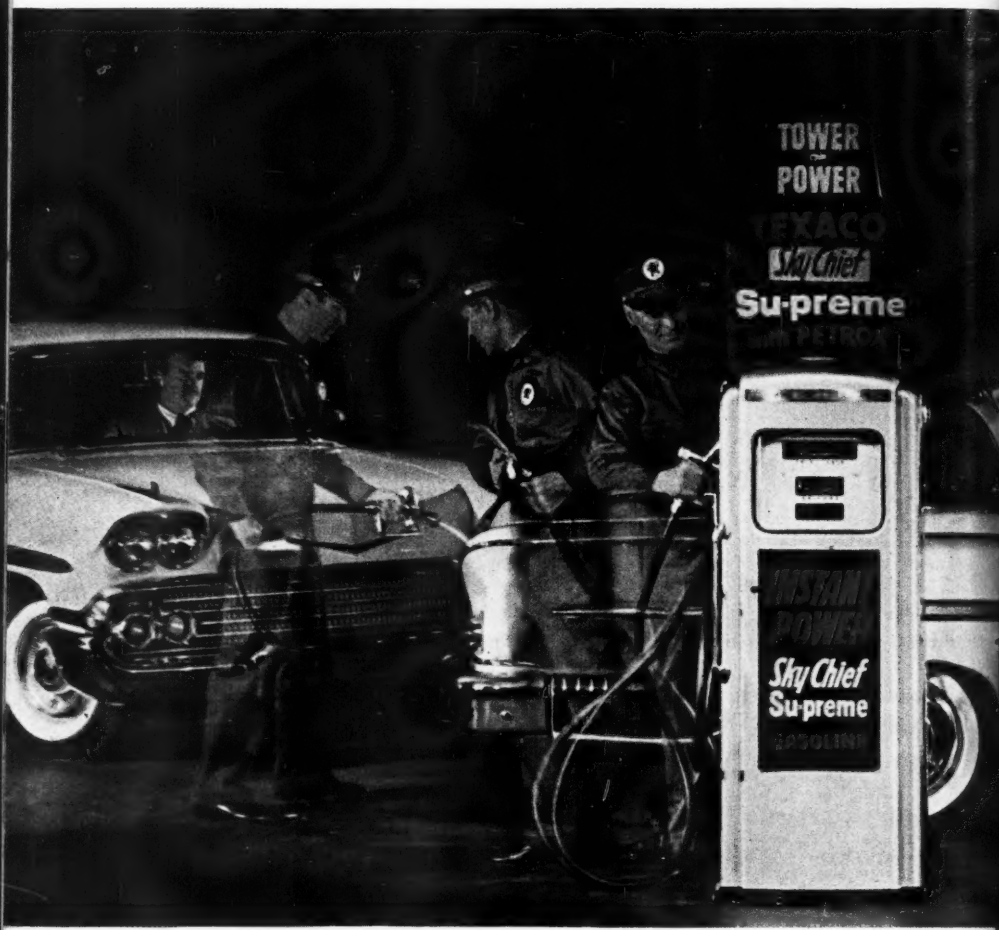
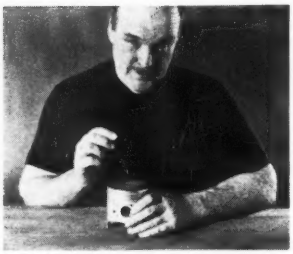
"Texaco Sky Chief Su-preme with Petrox



"Here's how PETROX protects your engine and gives



Tom McCahill shows *how* Petrox protects your car's engine from harmful friction and wear, gives you instant power. "First I siphon some Texaco Sky Chief Su-preme right out of my own gasoline tank—drop it on the top of this clean piston—let it evaporate, and now . . .

"To show you clearly the area protected, I brush some colored water on the piston. See that protected area remaining in the center? That's a thin film of Petrox! It is this film that prevents power-robbing friction and wear, prevents rust, keeps engines *clean*.

"Petrox in Texaco Sky Chi
Su-preme leaves this microscopic
thin protective film on every m
surface it touches – from your
tank, through the carburetor,
the combustion chamber – sp
plugs, valves, pistons, piston r
and cylinder walls.

rox gives you Instant Power!" says Tom McCahill

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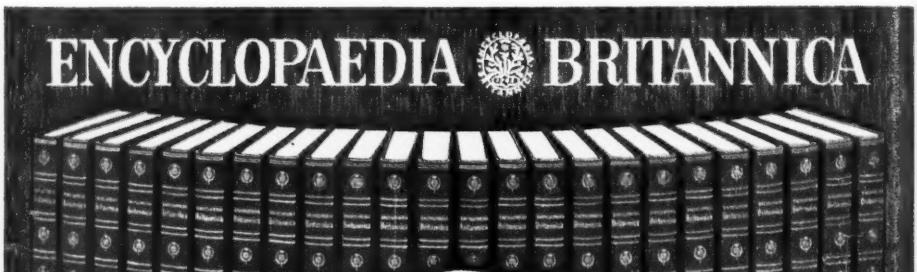

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Double Your Oil Mileage

[*Continued from page* 104]

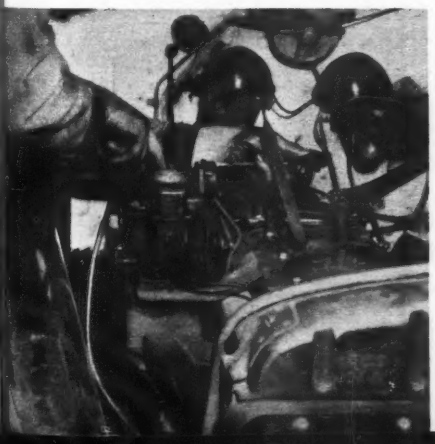
the effect of thinning down the oil and raising consumption.

One owner who had found the engine quite economical on oil during a summer trip was surprised to find the level dropping when cooler weather came along. He thought things should have been just the reverse—and they probably would have followed this pattern had the engine not developed choke trouble. Because of an air leak in the heat tube, from the exhaust manifold "stove" to the choke control's thermostatic coil, the engine became badly over-choked. Gasoline got past the rings and into the crankcase to dilute the oil. The effect was like using much too light oil. This blend burned off rapidly as soon as the car started zooming.

Incidentally, this concoction of gasoline and oil often misleads the round-town driver into thinking the engine is very economical on oil. He doesn't realize that gasoline and other diluents are keeping the oil level up. That's why he's apt to find himself running low on oil when he has completed the first lap of a fast trip on the open road.

By keeping the car in good condition, oil mileage can be improved. This is more than a matter of keeping tabs on the oil level. It calls for sampling the oil, smelling it for evidences of excessive dilution. It also calls for watching to see how the oil stands up when the engine is well heated up, especially during hard driving. The oil pressure gauge is a most useful guide. If your car has merely a tell-tale light to show that pressure is excessively low, be sure to install a pressure gauge so you can have the complete story.

CHECK AUTOMATIC CHOKE: if it enriches mixture too long, oil will become diluted.



Oil can leak around the overhead valve compartments atop the heads of the modern V-8 engine where oil is fed to the rocker arms and the valve stems or it may escape internally by being sucked down into the cylinders past worn intake valve guides.

Odd, but usually overlooked, is loss of oil because of loose spark plugs. With compression partially lost, the pistons then suck oil up into the cylinders with the loose plugs.

Quantities of oil still escape past the engine's rear main bearing, into the clutch or out to the road. The trouble here usually is with the retainer rather than with the bearing although there are plenty of cases where the bearing also needs replacing.

Sometimes excessive loss of oil at the rear bearing is due to the drain being clogged with sludge.

It is high oil consumption that loads the engine with carbon. This increases the risk of excessive pinging. Avoid sudden closing of the throttle. Not all carburetors have a dash-pot control to prevent stalling with quick stops.

As speeds go up, oil mileage goes down. *An engine will use about seven times as much oil when driving constantly at 55 mph as it will when held to a steady 30.*

Your new engine will use oil until its pistons "take a set" and a normal amount of carbon collects on the piston heads. Here we need to remember that the break-in should be conducted at high speeds.

Additives improve ring action by helping to remove gummy deposits. Incidentally, lifters are a handy guide to oil conditions. If lifters start tapping while the car is operating, stop immediately to check the oil supply.

Getting more miles to the quart of oil is largely a matter of getting more miles to the car, and vice versa. Check oil consumption and you check repairs. That's the real savings. •

"Don't SLAM the door"

(Pst! Go ahead, son, slam it—it's just been soundproofed.)

By David Olson

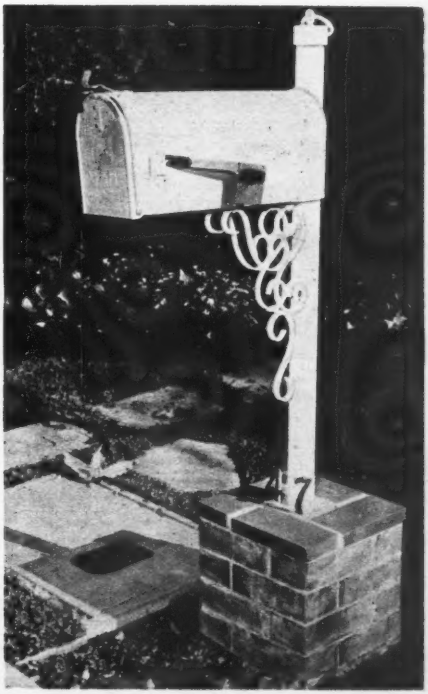
YOU can eliminate the slam-bang slamming of doors by installing a new laminated vinyl foam and wood weatherstrip called Foamflex. Cut three lengths: two for the door's sides and one for the top. Set these in place so that the foam projects slightly beyond the closed door. Nail this "bumper" over the present door molding or else replace the latter entirely with this material. •

BOTTOM LEFT. This tough, resilient vinyl foam, permanently bonded to wood, has plenty of "spring." BOTTOM RIGHT. Installation takes about 10 minutes.

BRINGING UP THE MAIL

TIRED of your rickety roadside mailbox? Why not lend some dash and élan to your lawn by erecting one of the handsome RFD boxes pictured here? A bit of aluminum or a bit of scrap wood, mortar, brick and paint will build any one of these. •

LEFT. A simple unit of three aluminum rods supporting a mounting plate. Below. Iron post in brick base supports metal shelf, aluminum filigree. RIGHT. An artistic aluminum "vine" enhances name, mailbox and address. BOTTOM RIGHT. Wooden base has 45° angles toenailed into the uprights.



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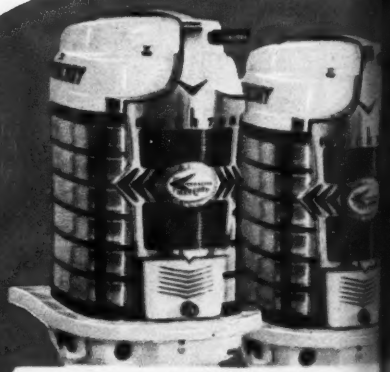

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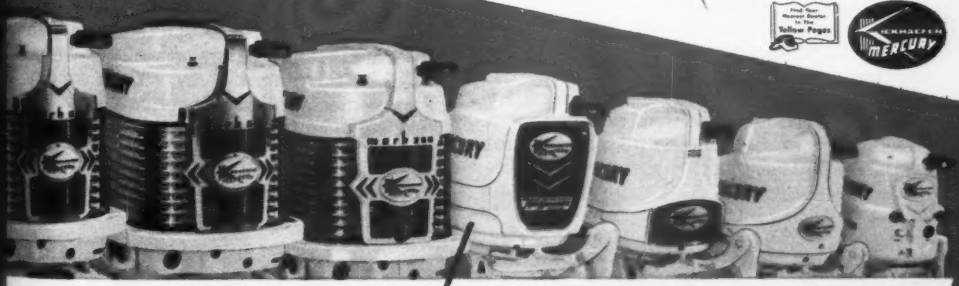

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No More Garbage

[*Continued from page* 99]

sogginess of the stuff. Dry loads are incinerated in fifteen minutes or less.

If you are wondering how these new incinerators compare with under-the-sink garbage disposal units, consider these four points: First, an incinerator has nothing mechanical to get out of whack and maintenance costs are all but nonexistent; second, incinerator capacity far exceeds that of any home garbage disposer; third, an incinerator makes no noise (even the best grinder is far from silent); and fourth, unlike sink units, no selection and tailoring of garbage is required for an incinerator. Just drop the waste in and the incinerator consumes it.

But incinerators have their drawbacks too. One of these is cost; incinerator prices range from $100 to over $200. And they take up more room than disposers. A typical 1½-bushel-capacity unit is slightly over 1½ feet wide, almost 2½ feet deep and just over three feet high with the top loading door closed. While these dimensions don't describe a really big appliance, it's still something you can't hide under the sink.

However, modern incinerators are so designed that even the most style-conscious housewife would not object to their presence in her kitchen. Appropriately styled outdoor models are also available.

The only prerequisite for interior installation of a gas incinerator is the existence of a Class A chimney. This is one built or lined with brick, cement or tile or with an approved steel lining. If a suitable chimney is lacking, factory fabricated flues are available at a cost of about $75.

Kitchens, basements and utility rooms are all good spots for incinerator installation. However, it is not advisable to locate an incinerator in a small, poorly ventilated kitchen. These units warm up a bit when in use and the warmth radiated might better be utilized in a basement or other room.

Gas incinerators can be installed on any type of floor and set up against a noncombustible wall. A T connection and some ⅜-inch pipe is all that's required to hook the incinerator up to the main gas supply line. Gas pressure regulators are available for installation in the supply pipe.

Installation can usually be accomplished by anyone with experience in pipe work. If you have to cut into a brick chimney use carbide-tipped masonry drills to drill out the mortar around one brick to loosen it. Then pull out the brick and enlarge the hole to about a six-inch diameter to take the incinerator's flue connection. Never use a reducer here.

Make sure (using furnace cement if necessary) that all flue connections are airtight. Ductwork between incinerator and chimney should be kept as short as possible and should slant upward a bit. This will prevent stray fly ash from accumulating in the duct. An incinerator can also be vented into a furnace flue as long as it feeds into a Class A chimney.

Gas incinerators are lit in the same way as gas water heaters. Remember to hold down on the pilot light control button long enough to heat up the thermocouple. When the pilot ignites, set the main control knob to the *on* position. After starting a new incinerator let the main burner operate for about half an hour; then drop in a few single sheets of newspaper to burn out any protective coatings.

When refuse has been placed in the combustion chamber and the door closed, set the timer control dial. If in doubt as to how long a given load will take to burn, turn the timer to its maximum setting; the unit will shut itself off when everything has burned.

Operating costs run about five cents per day or less in most areas. Models are available for operation on both manufactured and natural gas as well as bottled gas.

Gas-fired incinerators are indeed tolling the death knell of the garbage can and the smoke-spewing burner. All these units incorporate after-burners which eliminate smoke by burning it away. Thus, smoke-afflicted metropolitan areas can look forward to brighter, airier days once these incinerators have gained widespread public acceptance. The individual home owner, of course, will welcome the cleanliness they achieve in and around the house. •

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A QUARTER-INCH brass rod and some brass upholstery tacks or rosettes will turn a bucket made of Fortex (cloth-inserted rubber) into a decorative fireplace accessory that will not mar your floors. Mail order houses sell the buckets. Replace the steel handle with one made from the brass rod and space small holes around the lip of the bucket for brass tacks or rosettes. •

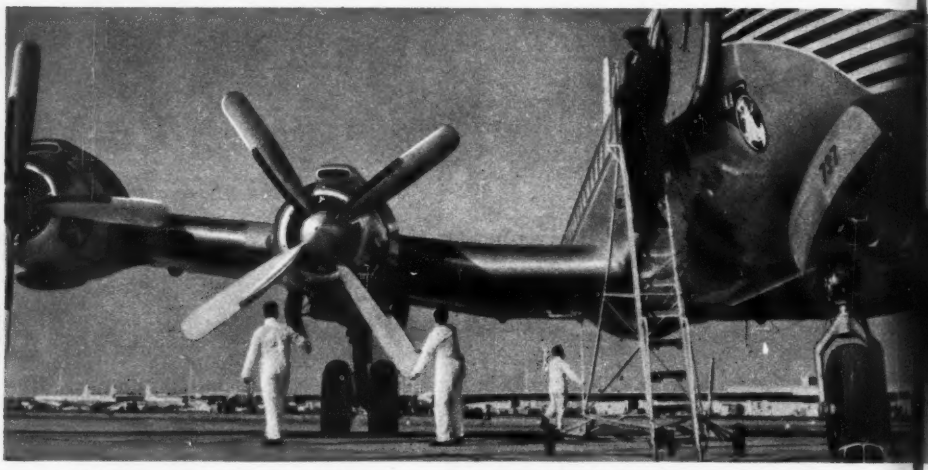
DRILL holes in lip, using metal back-up.

BEND brass handle around base of bucket.

FORM LOOPS at handle ends with pliers.

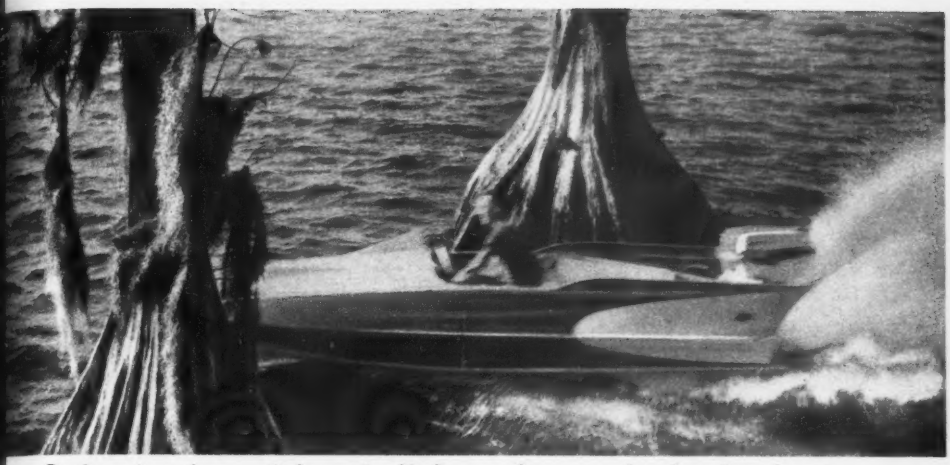
PRESS tacks or rosettes into snug holes.

Car makers—over *twice* as many car makers (including Rolls-Royce) specify Champion spark plugs—thirty-six different makes in all!

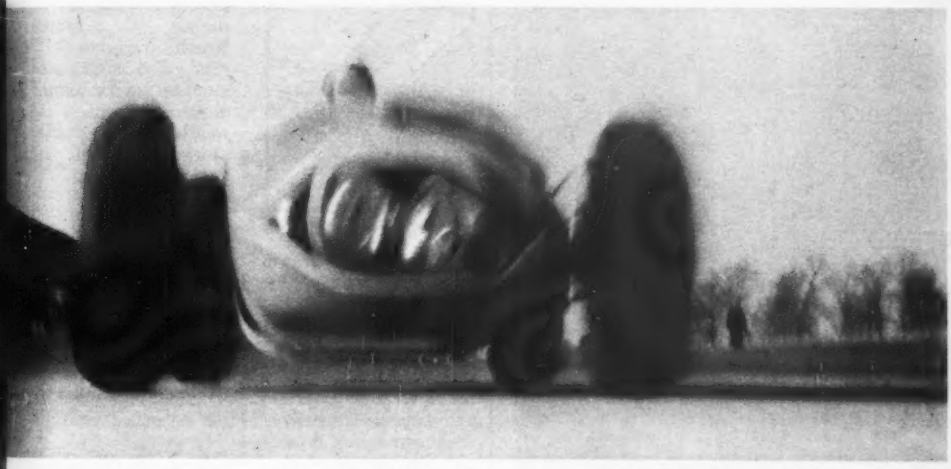


Airlines—*all* of the world's major airlines use Champion spark plugs for the safe, dependable performance the airlines *must* have at any cost!

Q. Why is it that wherever performance is vital—on land, sea or in the air—the experts choose Champion spark plugs?



Outboard engines—*all* the major U. S. manufacturers of outboard engines use Champions for easier, dependable starts, smoother performance.



Racing cars—8 out of the last 9 Indianapolis winners used Champions. And 9 out of 10 *stock* car winners over the past 5 years used Champions!

A. The experts know from experience that you can always depend on Champions. To get the best performance from your car, put in a new set of Champions every 10,000 miles!

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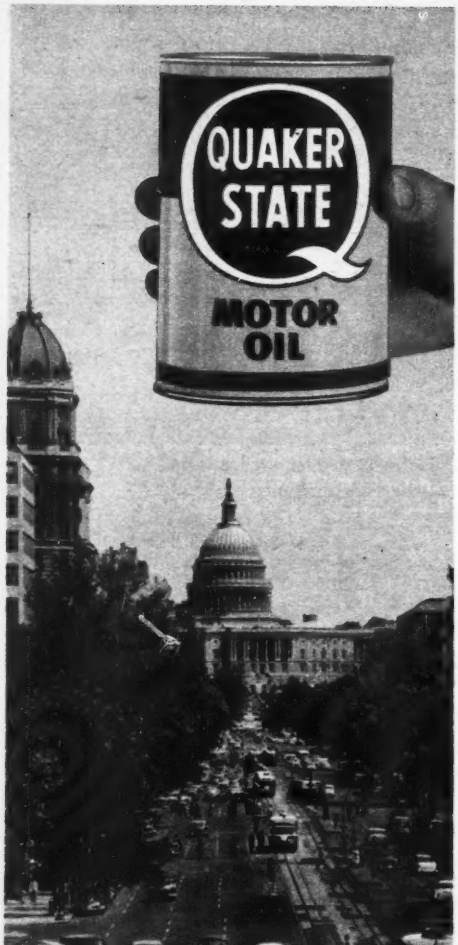

WASHINGTON, D. C.

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Only questions of the greatest general interest will be published in this column. For a personal reply, include a self-addressed stamped envelope. Drop a line to Doc Homes, Mechanix Illustrated, 67 W. 44th St., New York 36, N. Y.

- *What stops rust from bleeding through paint on steel beams in the cellar? A. O.*

Scrub down to bare metal with a wire brush, remove all dust and coat the surface with zinc chromate, which is available at paint stores; when it is dry, apply paint.

- *Small patches in my cement sidewalk break loose. Can I prevent this? P. M.*

Your dealer should have a new liquid latex compound for binding fresh cement to old. There are several brands on the market. Apply one as directed and then patch.

- *My whitewash (lime and water) washes off soon. Is there a better formula? E. T.*

You can produce a whitewash that is not so subject to chalking by adding about eight pounds of common salt to five or six gallons of your usual lime and water mix.

Announcing the United States Army's Graduate Specialist Program 1958 ~ 1959

The Purpose: This program is offered to provide qualified high school graduates with the technical schooling which will enable them to join the Army's key group of specialists, its select team of experts in every field from electronics to rocketry and guided missiles.

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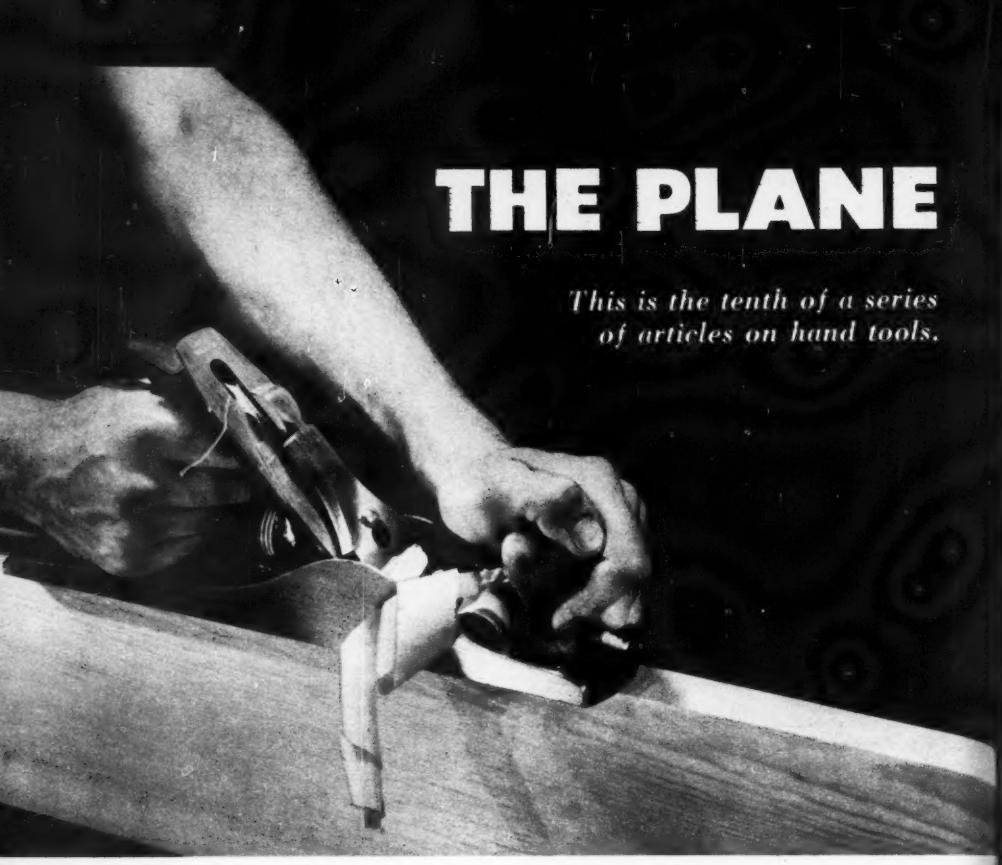


THE PLANE

This is the tenth of a series of articles on hand tools.

THE plane is a basic hand woodworking tool that is here to stay and no workshop can be considered complete without a small brood of these versatile shavers of wood.

While primarily a wood smoothing tool, it is also used to pare down the surface of wood to bring it to a true *plane* (hence its name) by a gradual shaving action.

A plane is actually a chisel set into a support which enables the blade to make a cut of controlled depth. There are three general classifications of planes: the *bench plane,* for cutting with the grain of the wood; the *block plane,* for cutting the end grain; and *special purpose planes,* for dadoing, rabbeting, cutting moulding and certain other applications.

Bench planes differ mainly by the lengths of their bottoms and the widths of their cutters. Block planes, much smaller than bench planes, are designed for use with one hand.

Parts of the plane. The business end of the plane is the iron (also called blade or cutter) which does the actual cutting. Made of tempered carbon steel it can be sharpened to a keen beveled edge.

A supplementary part of the iron is the plane iron cap; together they form the double plane iron. The cap is curved at the bottom and fits tightly against the face of the iron. As the wood shavings come through the throat of the plane they are curled and broken by this curved lower end. The cap adjustment is determined by the thickness of the cut being taken. It is usually set about $\frac{1}{16}$ inch back of the cutting edge but may be moved as close at 1/32 inch for fine shavings and as wide as ⅛ inch for rough work. The cap also stiffens the blade to prevent chatter. The cap is adjusted by loosening the cap iron screw which is located on the underside of the plane iron. Block planes have no caps because end grain planing produces no shavings.

The plane has three adjustments which control the cut. These are the

throat (or mouth), *depth* and *lateral* adjustments.

The throat of the plane is the rectangular opening in the bottom through which the plane iron projects. By loosening the frog screw located below the brass adjusting nut the opening may be narrowed or widened by moving the plane iron assembly forward or backward on the plane bed. On block planes the adjustment is usually made by moving the sliding section of the plane bed with the adjusting lever at the front.

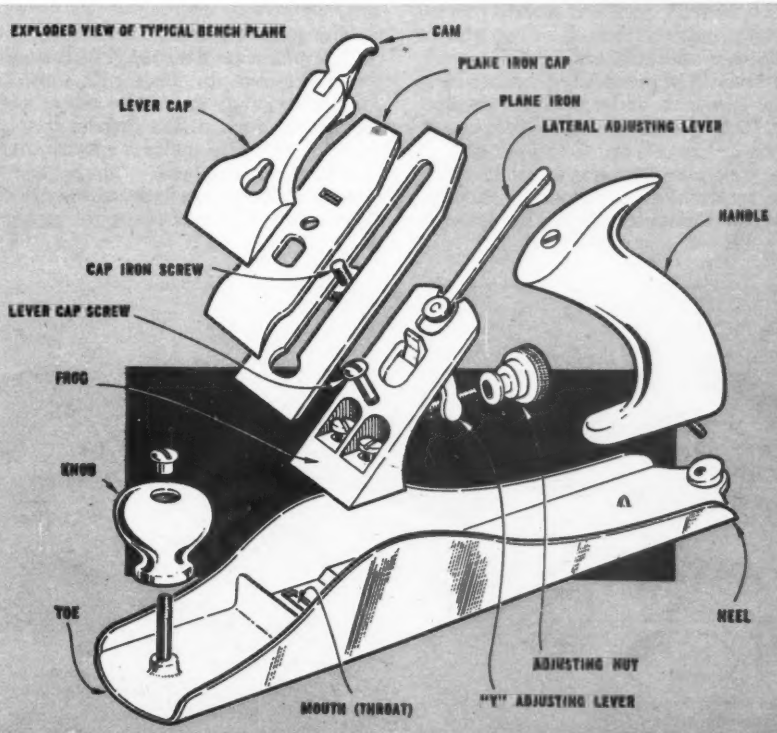
For fine planing and when planing close-grained wood a narrow throat is employed. But a wide opening is necessary for thick shavings, especially on coarse-grained or resinous wood. However, an opening which is too wide for the cut being taken will cause the wood to split.

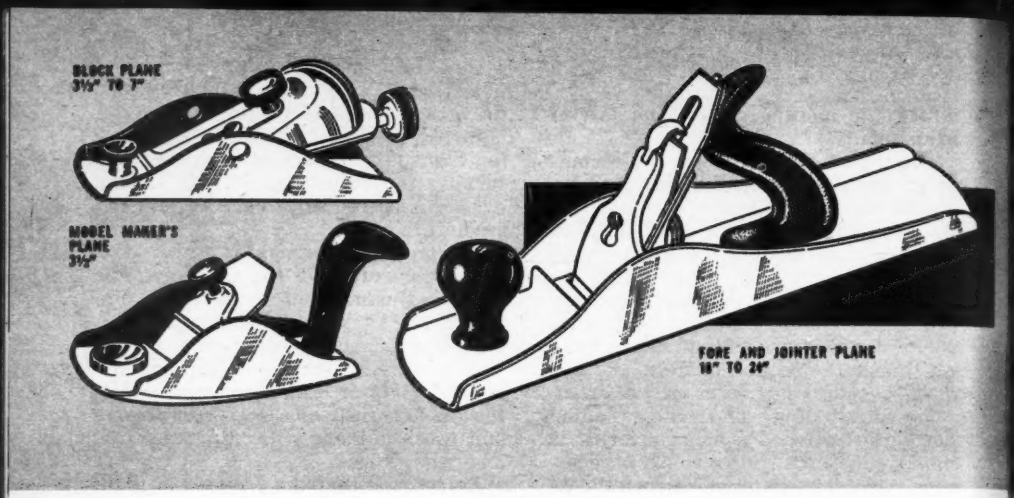
The depth or thickness of cut that the plane makes is controlled by the depth adjusting nut which is the knurled brass nut between frog and handle. The plane iron moves out for a deep cut when the nut is turned out toward the handle. To draw the cutter in for a fine cut the nut is turned in toward the frog. By sighting along the bottom of the plane and turning the adjusting nut, the cutting edge can be set to project the desired amount.

The lateral adjustment is used to control the evenness of the shaving. The lateral adjusting lever is just below and behind the back of the plane iron. Adjustment is made by sighting along the bottom of the plane and shifting the lever to right or left. This action shifts the axis of the plane iron with the result that the blade will cut deeper into one edge.

Remember that the plane iron is always set bevel-side down except in the case of the block plane. The cutter of the block plane is set bevel-side up.

All planes have one basic purpose: to bring down the surface of the wood to a true, straight plane. The straightness of the cut is governed by the length of the plane—the longer the plane, the straighter the cut. For illustration, picture a piece of wood with a wavy sur-





face. A small plane will follow the depression or irregularities of the surface and cut similarly. A large plane will span the crests and gradually level the surface of the wood.

Types of planes. The *block plane* ranges in size from 3½ to 7 inches in length with a cutter 1⅝ inches wide. Designed primarily for end-grain cutting, this one-hand plane is especially useful when work can not be held in a vise. It works well on small pieces, moulding ends, trim and siding and is a boom to model makers.

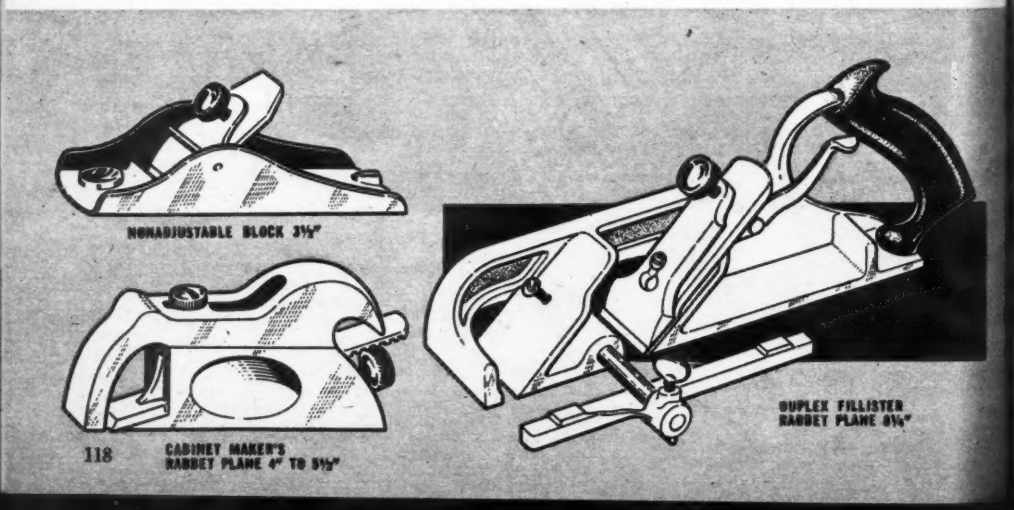
The *smooth plane* is 7 to 9 inches long with a two-inch-wide, straight-ground iron. It is the smallest of the bench planes.

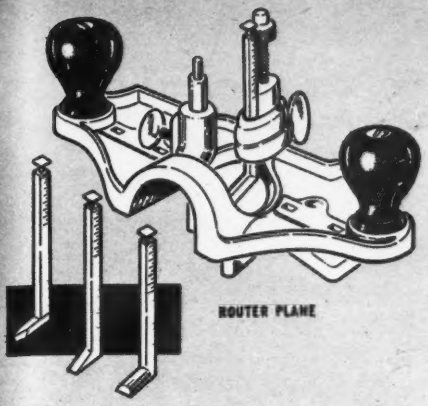
The *jack plane* ranges from 11 to 15 inches and has a two-inch cutter. Longer and heavier than the smooth plane, it is more powerful and is used for rougher and heavier work. It is usually the first plane used to remove irregularities left by saw cuts. The iron is ground to a slight convex curve for a deeper bite.

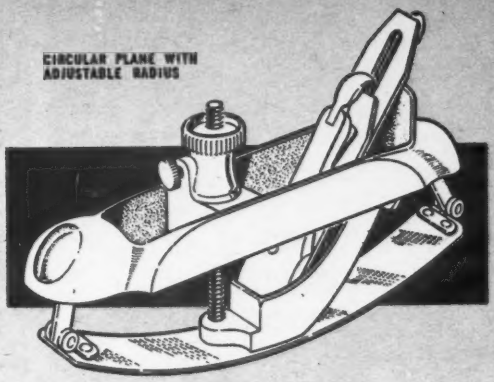
The *fore plane* is 18 inches long with a 2⅜-inch-wide cutter. It is used to straighten and smooth the comparatively rough, uneven cut of the jack plane. The iron is ground with a very slight convex curve.

The *jointer plane* is the heavyweight of the plane family, ranging from 22 to 24 inches and up. It gets its name from its ability to true up the edges of two boards to such a fine degree that they may be fitted to make a good joint.

Choosing a plane. There are two planes that are *musts* in any workshop. These are the block plane for end-grain







work and the bench plane for cutting with the grain. If a choice of bench planes is to be made, start your collection with a jack plane. Remember that one good plane is better than a dozen poor ones, so buy quality.

The following brief descriptions of the special planes will give an understanding of their uses:

Modelmaker's plane. This is designed for model, violin and pattern makers. Its bottom is curved in both directions. The plane has a ⅞-inch radius on the width, a 12-inch radius on the length, and is 3½ inches long.

Circular plane—has a flexible steel bottom adjustable as to radius which may be set to fit circular work.

Scrub plane is a narrow 10-inch tool with a rounded cutting edge. It is used for fast removal of excessive amounts of stock, especially narrow-edged pieces.

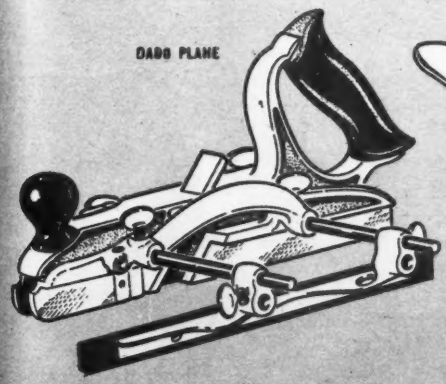
Rabbet plane is an open-side plane the iron of which extends to the outer edge to permit planing sharp corners.

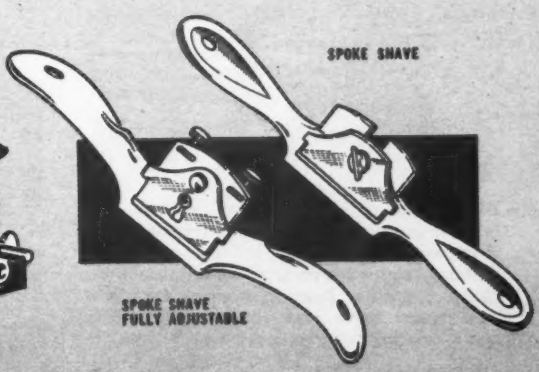
Fillister plane is an adjustable rabbet plane having a guiding fence attached to the side which regulates the width of the rabbet to be made.

Router plane consists of a horizontal bar or plate that supports a narrow vertically inserted cutter. Handles on each side permit pushing or pulling. The router is used for cutting recesses and smoothing the bottom of grooves.

Grooving plane is designed for cutting grooves across the grain. A double-toothed cutter separates the wood fibers in front of the iron.

Dado plane. This is a narrow rabbet plane with two [*Continued on page* 135]



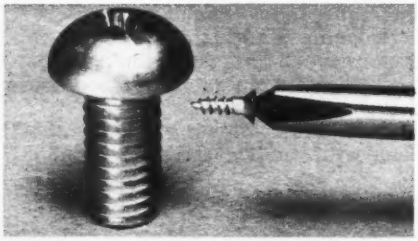


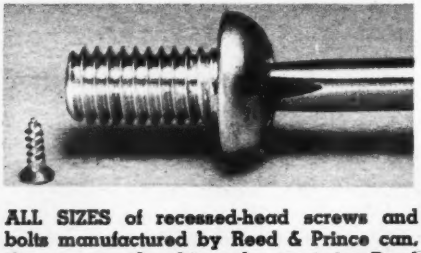
"RAINMASTER" is the name of this new unbreakable sprinkling can made of Polyethylene. It has 8-qt. capacity, snap-on sprinkler head and comes in four colors. $3.98.

Federal Tool Corp., 3600 W. Pratt Blvd., Chicago 45, Ill.

NEW TYPE plunger called Toilaflex has an extended, flexible lip which reaches and makes a seal with the offset toilet traps common among today's modern plumbing fixtures.

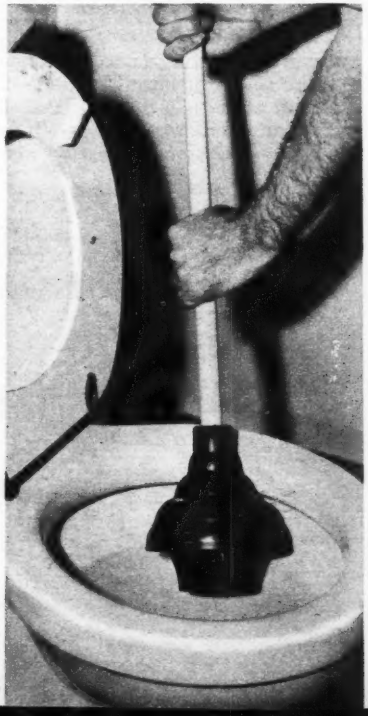
Stevens Burt Co., New Brunswick, N. J.





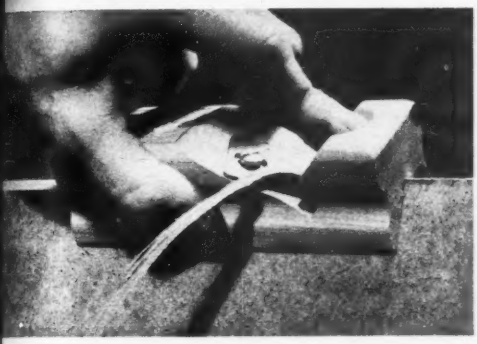
ALL SIZES of recessed-head screws and bolts manufactured by Reed & Prince can, if necessary, be driven by any size Reed & Prince screwdriver. Other advantages include a greater bearing surface, absolute true center drive and concentrated drive.

Reed & Prince Mfg. Co., 1 Duncan Ave., Worcester 1, Mass.

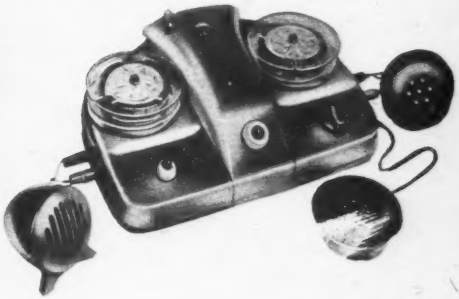


SHINGLE GAUGE will eliminate guesswork and guarantee a straight row of shingles. This tool fits any hammer. Sells for $1.
Sure Simple Service, Inc., Dept. 75, Box 607, Elyria, Ohio.

WORK GLOVES with flexible Pylox coating resist oil, grease and acid; provide excellent protection for those heavy jobs.
Pioneer Rubber Co., Willard, Ohio.

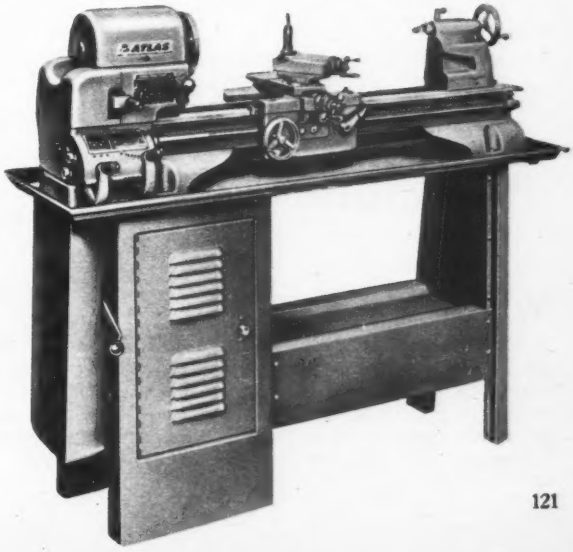


BEVIL DEVIL will bevel any grade hardboard. It has a carbon steel cutting blade that holds its edge and is easily honed.
Kimball Mfg. Co., 816 University Pl., Evanston, Ill.



TEL TAPE is a fully transistorized, battery-operated, portable tape recorder from West Germany. Weighs less than 2 lbs. $29.95.
von Zehle Agcy., 441 Lexington Ave., New York 17, N. Y.

ATLAS LATHE is a new back-geared screw-cutting machine tool. Its features include a Timken-equipped spindle, a precision ground bed, heavy carriage and compound rest, 16-spindle speeds and a wide thread-cutting range.
Atlas Press Co., Kalamazoo, Mich.



GETTING TIRED OF A CONCRETE FLOOR?

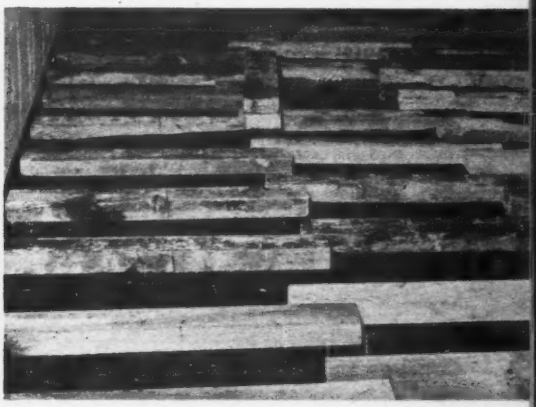
WHY not enjoy the warmth, beauty and durability of hardwood floors in your concrete slab home—and do the job yourself? The process of installing hardwood over concrete is quick, easy and economical and the two main objections to concrete, coldness and hardness, are overcome. Here's how it's done:

Two processes can be used. In one, ordinary random-length tongue and groove flooring is used over screeds. This raises the floor level 2½ inches. Since it rides on screeds, the floor is resilient, making walking and standing more comfortable. In the other method, "shorts" (pieces of tongue and groove

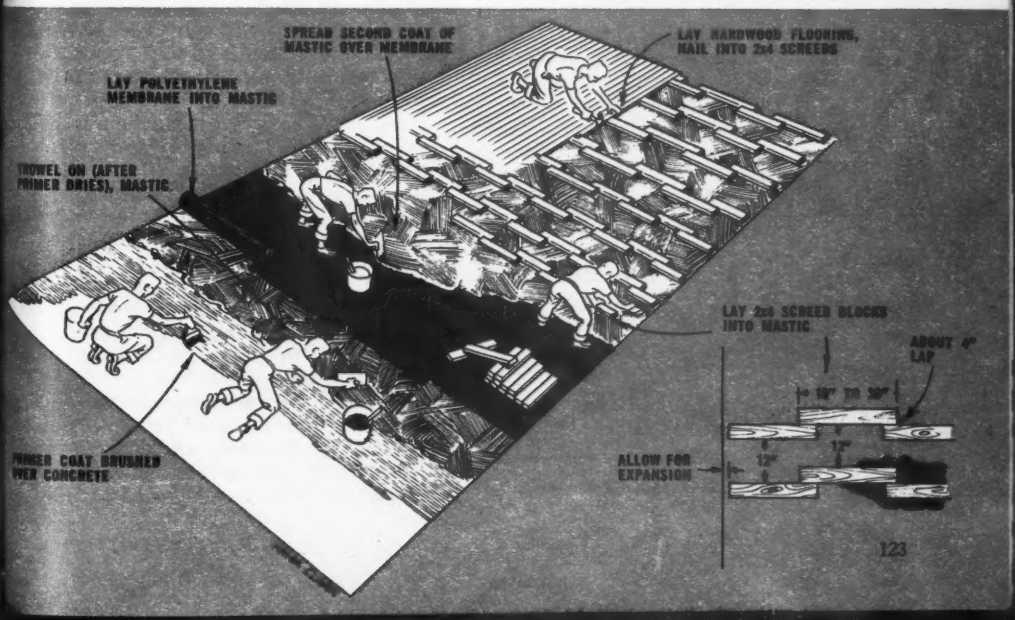
HOT MASTIC for bedding 2x4 screeds is poured over membrane on the concrete slab.

SCREEDS are laid in a staggered pattern with centers no more than 16 inches apart.

ONE-INCH GAP should be left between the screeds and the floor plate for expansion.

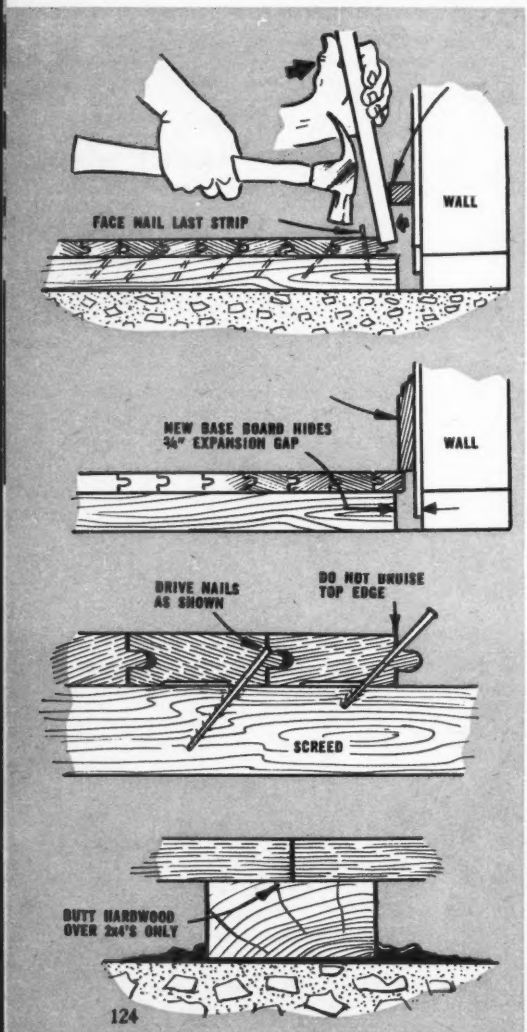


COMPLETED BASE for the hardwood floor: hardened mastic holds the screeds firmly.



FACE-NAIL first board to the screeds, leaving ¾-inch expansion gap along wall.

PRY BAR is used to press boards tight for nailing when close to opposite wall.



flooring 18 inches long or less or blocks called parquet) are laid directly in mastic on the concrete. In this case, the floor is raised only a half to one inch depending upon the type of block used and it is not so resilient as flooring over screeds.

Preparation for either floor is the same. First all basement molding should be removed as well as any linoleum or tile. Then all jambs and casings are carefully shortened so that the new floor can slip beneath them. Use a fine saw on top of a piece of flooring for a guide to assure the correct height. When using screeds, lay a piece of flooring on a screed and use that as a guide. Mark any doors that have to be cut in the same way.

The next step is to moistureproof the slab to keep dampness from passing up into the flooring. Brush primer over the concrete, allow it to dry, and then trowel on cold mastic which can be bought by the gallon at building supply houses. Place a polyethylene membrane over the mastic, lapping all joints. An alternate method is to use felt saturated with hot asphalt mastic.

Next trowel a layer of cold mastic over the membrane. Use a notched trowel according to the mastic manufacturer's directions, troweling out the mastic so that the recommended coverage is obtained. This mastic serves as an adhesive to hold the flooring or screeds to the concrete.

From here on the procedure will depend upon whether or not you are using screeds. If you are, make them of random 2x4's, 18 to 30 inches long. These are placed in a staggered pattern

LARGE SANDER with an attached dust bag can be rented to prepare floor for finish.

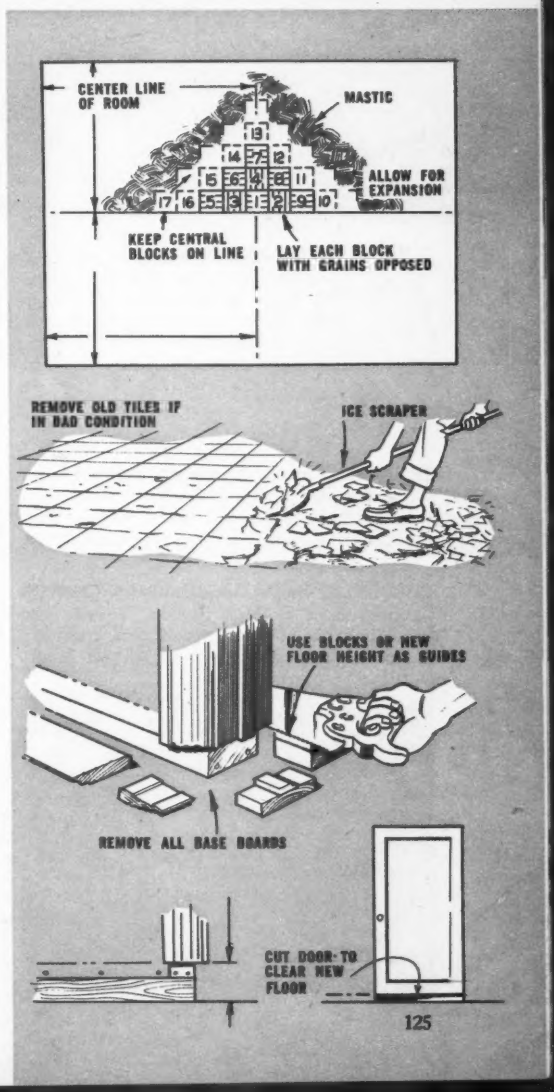
AFTER SANDING, the new floor is given two or three coats of penetrating sealer.

with the rows spaced 12 inches apart. Use at least three screeds at a doorway, one near the jamb on each side and one near the middle. The screeds should reach to within one inch of the walls on each side of the room so that there will be backing for the first and last floor boards and still allow room for expansion. Lay the screeds across the short dimension of the room, lapping the ends about four inches. Then tap them with a hammer to embed them in the mastic.

Begin laying the hardwood flooring by face-nailing the first board to the screeds. Allow ¾ inch for expansion near the wall and use screw-type flooring nails. Then you can lay the rest of the floor in the usual manner, blind-nailing it into the screeds at a 45° angle. Take care not to bruise the edges of each board near the surface. Keep the end joints of the flooring boards staggered as much as possible.

When the far wall is reached, and nailing becomes difficult, pry the last four boards into place with a bar and face-nail each strip into the screeds. If the distance doesn't come out even at the wall, rip a board to make up the difference. If this board is less than ¾-inch, nail it to the edge of the previous board before prying. If the board is wider, treat it as a separate board. Replacing the saddles, setting the nails and putting back the baseboard molding completes the laying of the floor.

Shorts or block flooring may be laid without screeds, directly on the concrete after it has been moistureproofed with a mem- [*Continued on page* 135]



Golden Hammer Award Winners

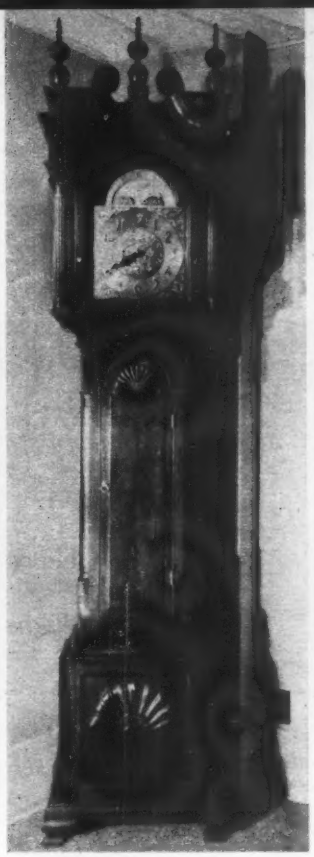
BOYS' ROOM was completely refinished by Jerry Ganz, Scranton, Pa. Cost of materials for all the units shown was $180 and approximate building time was 80 hours.

SNOW BLOWER, made of various auto parts by Paul Sullivan, Laurium, Mich., clears 60 ft. of 2-ft. depth in one minute. Snow is thrown 35 ft. Wisconsin 9-hp motor drives blower.

THEATRE contains 85 woods, was made by Olan Cooper, Chico, Calif. He presses button, curtains part, orchestra plays (record), figures perform and curtains close.

CREDENZA, below, was built by Chris H. Groneman of College Station, Texas. Luxuriously-grained myrtlewood was carefully matched, varnished, rubbed to soft finish.

INLAID PICTURE of a 16th century house was skillfully made by Norman L. Maile, London, England, using only walnut, ebony and sycamore.



CLOCK CASE is work of Arthur L. Armstrong, Missoula, Mont. Drawing of colonial piece was guide.

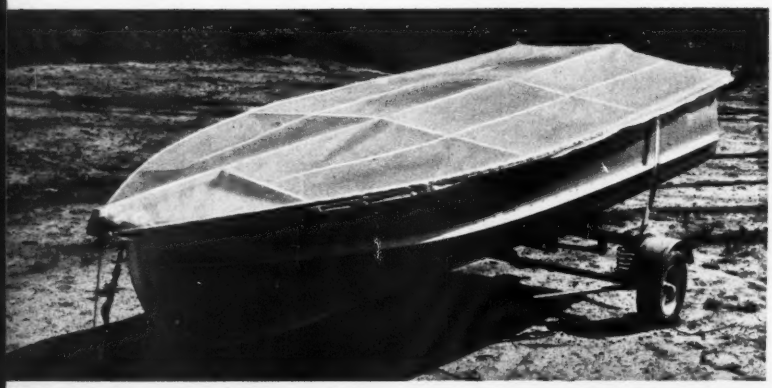
VIOLINS were made by dauntless Leonard Porter, Kansas City; he's 71, has one arm, recuperated from a heart attack this way.

Each craftsman whose project is shown receives a 24-karat gold-plated Hammer and a Workbench Award Certificate. Runners-up will be sent a beautiful gold-plated Golden Hammer Tie Bar or MI's Certificate of Merit. How about sending us a *black-and-white* photo and *full* description of your latest project? Photos of you and your workshop are also eligible. Send all entries, with return postage enclosed, to MECHANIX ILLUSTRATED Golden Hammer Awards, 67 West 44th St., New York 36, N. Y. Entrants are advised that MECHANIX ILLUSTRATED cannot accept responsibility for customs charges, duties, taxes, etc., levied against Golden Hammer and Golden Hammer Tie Bar winners outside the United States.

The following craftsmen have been awarded GOLDEN HAMMER TIE BARS for their projects: Martin Cohen, Kew Gardens, L. I.; Fred J. Theiler, Beloit, Wis.; Elroy Hopkins, Rome, Ga.; William A. Selby, Philadelphia, Pa.; A. L. Gray, Louisville, Ky.; Edson Howard, Rand, Col.; Fred Vosselmann, Bronx, N. Y.; Harley Conrad, Tipton, Iowa; Rush Kittler, Laws, Calif.; G. W. Simpson, S. Rhodesia, C. Africa; Charles J. Weilant, Toledo, Ohio; Robert M. Garrett, Anderson, S. C.; Clayton Thomas, Bovina Center, N. Y.; Henry J. Fahs, North Olmsted, Ohio; Michel Tellier, Quebec, Can., Thomas Ray Bosma, Buffalo Center, Iowa; James L. Theisen, Dubuque, Iowa; Victor Taglieri, Wyandanch, N. Y.; Frederick A. Schaefer, Sandusky, Ohio; James E. Stringer, Galva, Ill.; Charles E. Elkendall, Jr., Danville, Ind.; Kenneth F. Wood, Jr., Brockton, Mass.; Joseph [Continued on page 142]

RIGID-FRAME BOAT COVER

Low in cost and easily made, it will last for years.

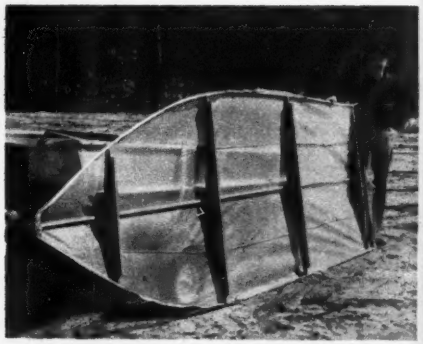


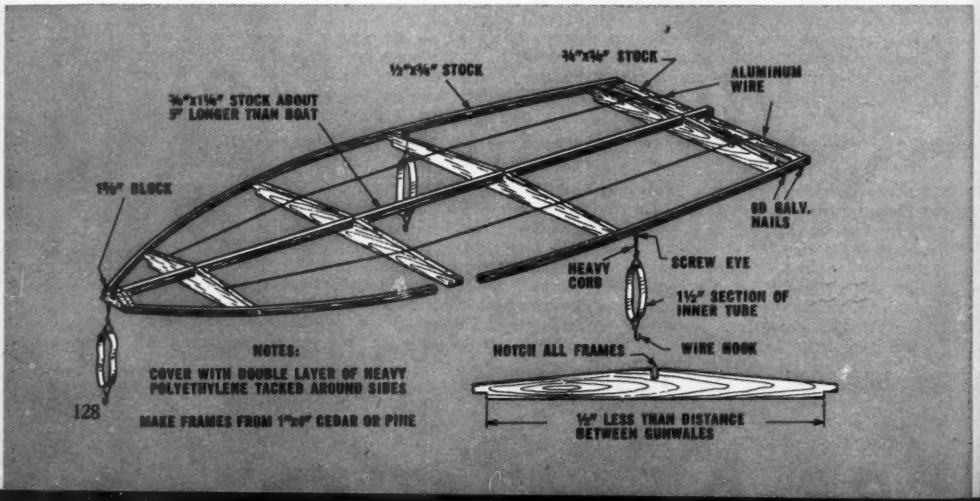
PLASTIC serves as covering for wooden frame which is held down by 3 hooks.

BOTTOM VIEW shows aluminum wires which prevent pockets in plastic.

TRAILER your boat from home each week end? Then this cover is ideal for keeping the rain out between trips. It costs only a few dollars and is easier to handle than the canvas type. As for durability, the one shown in the pictures is four years old.

Paint or varnish the frame before covering it and use copper or aluminum tacks to fasten the plastic around the sides. Don't put any tacks across the top.—*R. G. Knapp*





KEEP YOUR TRAILER SHIPSHAPE

CRADLE BLOCKS should be replaced when badly worn. Then coat their surfaces with waterproof cement before affixing new . . .

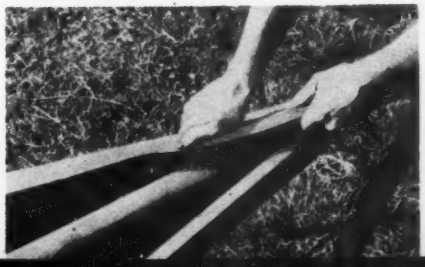
. . . **RUBBER PADS** or carpeting. Clamps are used to hold material in place until cement dries and the corners are tacked.

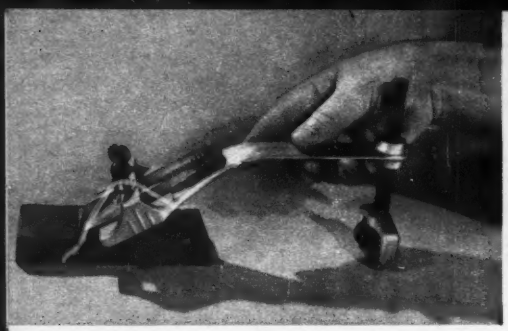
TRANSOM SUPPORTS should be re-covered in the same manner as the cradle blocks.

FRAME should be wire brushed and sanded to rid it of rust scale and peeling paint.

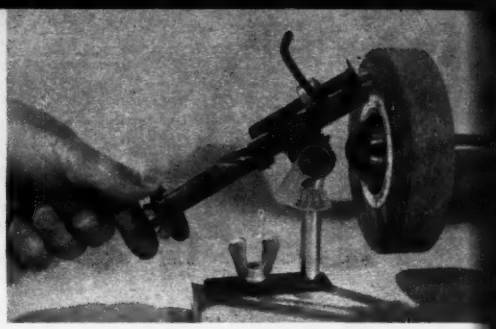
GREASE roller axles and coat rubber inserts with neoprene to fill pitted areas.

APPLY anti-rust paint to the frame; then check your wheels and you're ready to roll.





PLANE-BLADE SHARPENER holds chisels and other cutting tools at correct angle.



DRILL GRINDING ATTACHMENT rotates drill for a professionally-sharpened edge.

SHORT CUTS TO SHARP CUTS

Try these 8 tips for cleaner cutting jobs.

OIL pliers and bolt-cutters for smoother operation and to prevent rust.

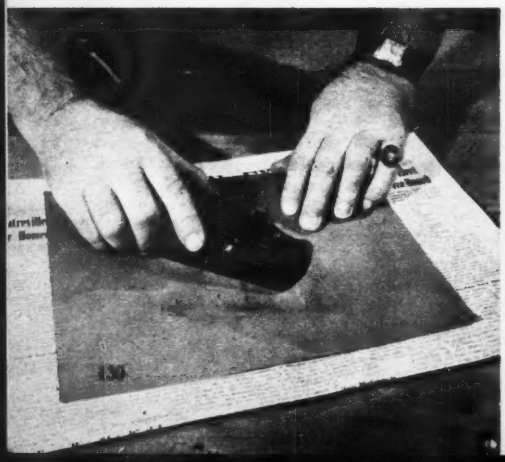
DRY GRAPHITE lubricates by coating all inside surfaces and gears of brace.

STAINLESS STICK lubricant protects saw surfaces and teeth.

KEROSENE applied with a stiff bristle brush cleans an oilstone.

PLANE BED can be kept clean by rubbing on fine abrasive paper.

TINNING SHEARS are quickly re-sharpened with a slip stone.



FRESH PAINT TIPS

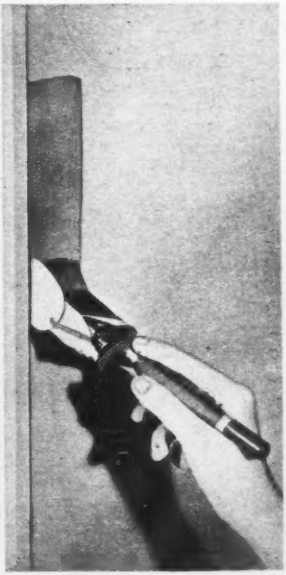
MIX spackle with plaster to prolong setting time when doing plaster-patching chores.

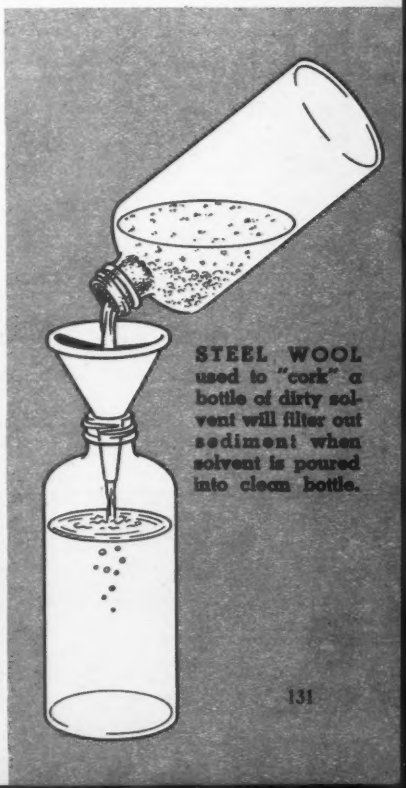
SCREEN PAINTER, a piece of plastic foam attached to a metal holder, is used with a shallow paint pan.

Red Devil Tools, Union, N. J.

TRIM KING is a paint-brush accessory that clips to a brush and facilitates neat, fast trimming jobs.

Kurdon, Inc., 2320 S. Western Ave., Chicago 8, Ill.





STEEL WOOL used to "cork" a bottle of dirty solvent will filter out sediment when solvent is poured into clean bottle.

A BURNING QUESTION

Leaf disposal? Use a box, four bricks and a barrel.

IT'S easy to send your leaf problem up in smoke. For gathering, use a large, corrugated appliance carton with several coats of shellac inside and out. When you have it filled, dump the lot into the illustrated incinerator, strike a match and watch it go! •

LEAVES leave in cloud of smoke from steel barrel mounted on four bricks.

CARDBOARD BOX, top edge taped, is shellacked for moisture-proofing.

COLD CHISEL is used for cutting holes in bottom of the barrel to create an updraft.

LARGE CARTON holds tremendous amount of leaves and is easily moved to incinerator.

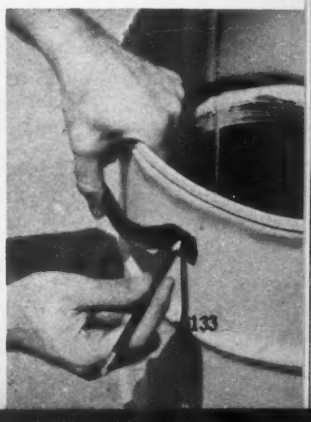
EVENING PROJECT

ROLLING WASTE CAN

NEXT time you stop at your gas station, put in a bid for an empty 20-gallon grease drum. With a caster-equipped disk fitted into the recess at the bottom and a pair of handles added, it makes a fine waste receptacle that saves a lot of effort in the shop or garage. •

WOODEN DISK is cut out on band saw, left, fits snugly into recess at bottom of drum.

BOTTOM of drum is drilled, lower left, so screws may be passed into disk from inside; casters are added in center photo and installation of handles completes the job, right.



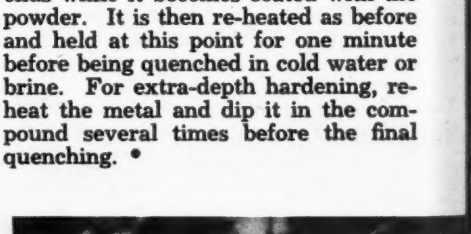
HARDENING STEEL

This is no way to treat a nail but you too can drive one through steel!

By Clarence Martin

STEEL tools such as cold chisels, drills and center punches can now be hardened in the home workshop with the aid of a new powdered compound called Hard-n-Tuff. It is used as follows:

The tool to be hardened is heated to a cherry red and then immersed in the hardening compound for about 30 seconds while it becomes coated with the powder. It is then re-heated as before and held at this point for one minute before being quenched in cold water or brine. For extra-depth hardening, reheat the metal and dip it in the compound several times before the final quenching. •



FIRED STEEL is coated by immersion in hardening compound. It is then quenched in water, or oil (for high-speed steels).

The Plane

[*Continued from page* 119]

spurs which cut across the grain of the wood directly in front of the cutter. It is used in making clean-cut flat-bottomed grooves.

Moulding plane cuts convex and concave surfaces. These are obtainable in pairs of opposite matching curvatures.

Universal plane is actually a combination of practically all the special planes. By means of various adjustments many types of cutters may be used to cut all sorts of joints and decorative moulding.

Sharpening the plane iron. Sharpening plane irons involves two steps: grinding and whetting. Grinding puts the bevel in the iron, whetting produces the sharp edge. Note that there are two angles involved: the 25° grinding angle and the 30° whetting angle. Grind the iron only when the edge is nicked or when the bevel is worn from too much whetting.

The bevel should be ground to twice the length of the thickness of the blade. For accuracy use a bevel grinding gauge. With the grindstone turning toward the iron, move the iron from side to side across the wheel. Keep the iron cool by frequent water dips.

To whet the iron, lubricate the oilstone with light oil and place the bevel on the stone at the proper angle. Move the iron back and forth while maintaining the same angle throughout the stroke. Finish by giving the unbeveled side of the iron a few strokes while holding it perfectly flat on the stone, then follow up with a few strokes on a leather strop. When not in use, always rest the plane on its side to protect the iron.

Using the plane. When planing, take a comfortable stance back of the work. Press down on the knob at the beginning stroke and on the handle at the end of the stroke. Always keep the plane level with the surface of the work. Push the plane with the grain to obtain a smooth cut. In order to avoid splitting the wood when end planing, you should plane in half way from each edge, or chamfer a corner if feasible.

Well, that's the story on planes. Remember to drop in again next month for another tool series.—*R. J. Capotosto*

Concrete Floor

[*Continued from page* 125]

APPLY WAX in successive coats over sealer to give a durable finish with a deep sheen.

brane. If exterior-grade plywood blocks are used, moistureproofing may not be necessary. Begin the block installation by determining a working line parallel to the longest wall of the room. This line should be four or five feet from the wall, or whatever distance will correspond to the size of four or five blocks. Be sure to allow for expansion. Once you've located the line, snap it with a chalkline. By following it, you will have a pleasing square pattern.

When the mastic is spread over the area you are going to work on, position the first block by aligning it with the working line in the middle of the room. Place a block against it on either side and tap them together with a hammer. Then build outward toward the far wall, keeping a pyramid shape as shown in the drawing. Pay particular attention to the alignment of the blocks along the working line.

Be sure to turn the direction of the strips in each successive block. When the far walls are reached, cut the blocks, if necessary, to allow for a ¾-inch expansion gap. Strips of cork should then be placed between the blocks and the walls to absorb expansion. Laying the blocks in the remaining areas, and placing the expansion strips, completes the job.

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Monthly PHOTO Contest

Please put your name, address and picture-taking data on back of each print. Wrap with cardboard stiffeners and enclose a self-addressed stamped envelope or postage for return of unused photos. Prize-winning pictures are not returned. Judges are MI Editors. Duplicate prizes awarded in case of tie. Address entries to: *Mechanix Illustrated*, Photo Contest, 67 W. 44th St., N.Y.C. 36.

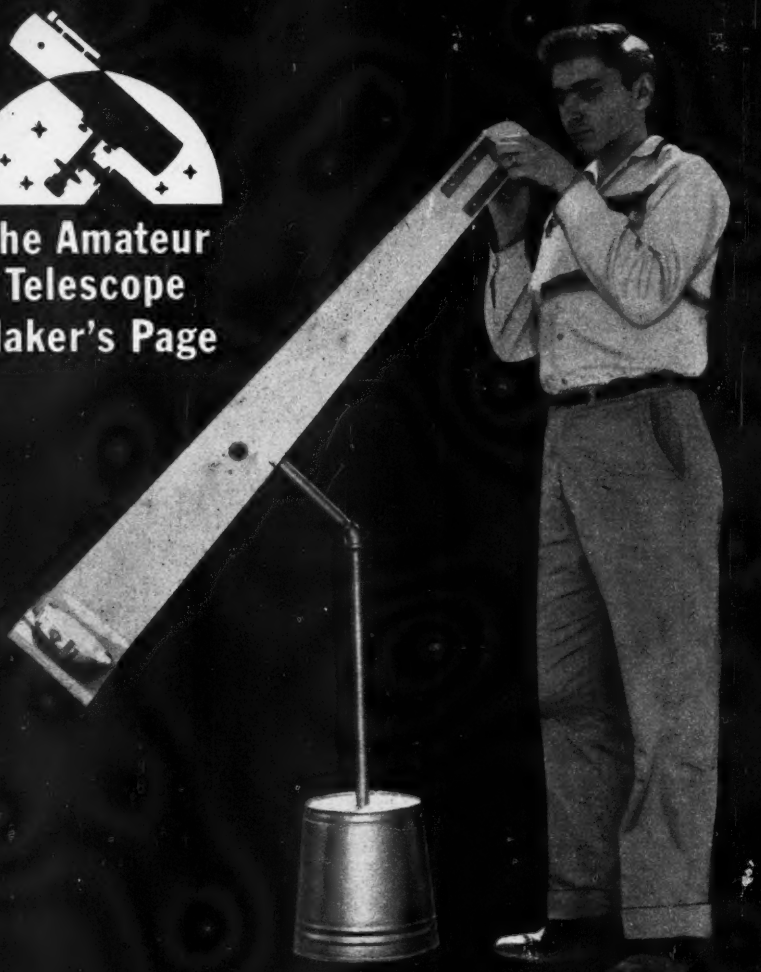
1st Prize ($25) .....ON THE LEFT BANK
Jean Littlefield, teaching in Hiedelberg, took shot at left in Paris, used a Rollei. Plus X film, yellow filter; f-8 at 1/50th.

$10 Award..SHUTTERBUG BY SHUTTERBUG
Of two people shooting Manhattan skyline, E. Loffredo of N. Y. undoubtedly got the better picture; Minolta, f-22 at 1/100th.

$10 Award .....LOVE THAT VANILLA!
Cat holds her own with a cone in photo by Mary J. Patrick, N. Y. Camera was a Busch Pressman; f-5.6 at 1/50th with photoflood.

$10 Award .....WESTWARD NO MORE
Old wagons near Reno, Nevada, were photographed by Albert Hicks of Walnut Creek, Calif. He used a Rollei; f-8 at 1/100th.

The Amateur Telescope Maker's Page



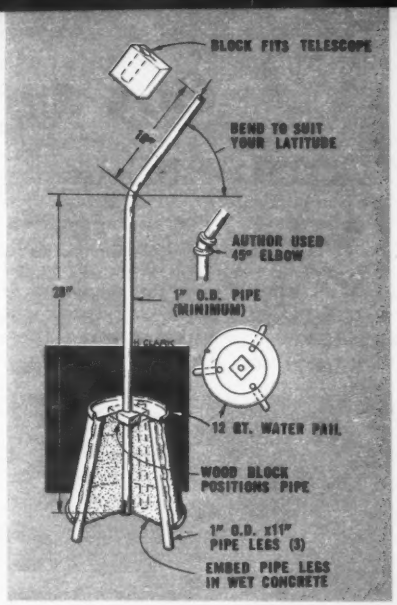
TEN-DOLLAR TELESCOPE MOUNT

READERS who built MI's Ten-Dollar Telescope, which appeared in the February and March issues of this magazine should be especially interested in this mounting. It was especially designed for folks who built this job. (In case you missed these issues, the plans describing its construction are available for $2. Please ask for Plan No. 8, Ten-Dollar Telescope. Send your order with remittance to Mechanix Illustrated Plans Service, Fawcett Building, Greenwich, Conn.)

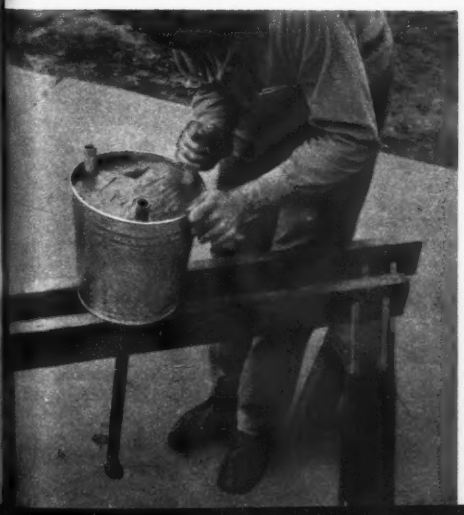
As may be seen from the photographs

and drawing, the mount consists of several lengths of pipe embedded in a bucket of concrete. A twelve-quart galvanized pail, stripped of its bail and hooks, serves as the base. A length of pipe bent to the proper angle forms the polar axis.

If the latitude of your town is 45°, you're in luck. You will be able to use a standard 45° elbow. If you live considerably further north or south of this latitude you will have to do a bit of bending. By bending the polar axis to the latitude of your town you have mounted your telescope "equatorially," which means you will have to move the telescope in only one direction to follow a given star. Position the mount so that the polar axis is aimed directly at the North Star. [*Continued on page* 166]



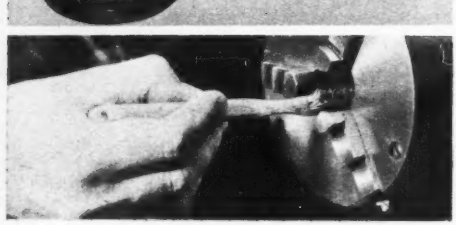
WOOD BLOCK at bottom of pail helps keep the pipe in place. Tape prevents concrete from entering inside of pipe. Right: Fill with concrete to within one inch of top. Below: Position the three legs before concrete sets; etching with hydrochloric acid.



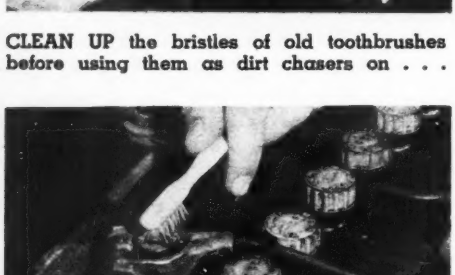
Got a TOOTHBRUSH?

. . . that is, an old one you're about to throw out? (Don't do it!) Instead, look below for some of the uses to which these old molar polishers can be put.

CLEAN UP the bristles of old toothbrushes before using them as dirt chasers on . . .



. . . **TYPEWRITERS**, battery connections, power tools, cameras, etc. Remember, too, to use a separate brush for each color shoe polish.



Golden Hammer Awards

[*Continued from page* 127]

DeBellis, W. Morristown, N. J.; W. Hickman, Ardsley, Pa.; Donald V. Taylor, Mason, Mich.; Swietzer Armony, Arco, Idaho; Robert E. Sommer, Gainesville, Fla.; William J. Bolda, Calumet City, Ill.; Capt. R. L. Hays, Ft. Huachuca, Ariz.; Clarence G. Walters, Jr.; Mechanicsburg, Pa.; John A. Mugens, Chicago, Ill.; Roy McDaniel, Orange, Tex.; Fred Roisel, Granada Hills, Calif.; J. W. Housman, El Cerrito, Calif.; Arthur W. Cunningham, Jr., Charlotte, N. C.; Nunzio O. Dina, Chicago, Ill.; Gerald Chafkin, Brooklyn, N. Y.; Thomas P. MacCammon, Fairfax, Va.; Bill Rankine, Manitoba, Can.; Donald V. Armitage, Alberta, Can.; C. W. Kessler, Seattle, Wash.; Eddie Fort, Jr., San Antonio, Tex.; Sam D. Senzwik, Quebec, Can.; Raymond Kasold, Fort Edward, N. Y.; Keith O. Ellen, Grand Rapids, Mich.; A. C. Lancaster, Yorktown, Va.; George James, Meriden, Conn.; D. Tonks, Staffs, England; Abe M. Garton, Newark, Mass.; Bob Raczka, Chicago, Ill.

The following craftsmen have been awarded CERTIFICATES OF MERIT for their projects:

Ray McLerran, Dickinson, Tex.; Donald Figueiredo, Bangor, Me.; Joe DiMasi, Huntington Sta., N. Y.; Ron Lane, Flint, Mich.; Edward S. Croft, Elkins Park, Pa.; Alfred Standish, Eloit, Me.; Marvin W. Peck, Jr., Sparta, Ga.; Jack Lelodet, New York, N. Y.; Henry B. Ehman, Gary, Ind.; R. V. Wheeler, Richmond, Va.; Ed Sovina, Peeley, Pa.; James E. Gross, Chicago, Ill.; Ronald Gill, Waterloo, Ill.; Albert and Billy Meredith, Louisville, Ky.; Trevor Glausen, Wantagh, N. Y.; Milton W. Thomson, Edgewood, R. I.; John Rowe, Jr., New York, N. Y.; Andrew Vena, Philadelphia, Pa.; Raymond Konesky, Pittsburgh, Pa.; Max Nusbaum, Bern, Kan.; John Busso, Staten Island, N. Y.; Dick Hustace, Oakland, Calif.; Elizabeth Luderick, Westover AFB, Mass.; George E. Virgines, Northlake, Ill.; Charles R. Pantenburg, Ames, Iowa; Harold S. King, Decatur, Ga.; Marvin L. P. Tomsicek, Wahoo, Neb.; Daniel Marcotte, Brookline, Mass.; Wesley A. Waters, Jr., Philadelphia, Pa.; R. E. Sorenson, Redwood City, Calif.; Louis J. Poxun, Ukiah, Calif.; Clifford Prey, Orondo, Wash.; Matt J. Fox, Jr., Fostoria, Ohio; Ralph E. Gibson, Sabina, Ohio; Robert Ewbank, Indianapolis, Ind.; Duane L. Lieswald, Lebanon, Ore.; Alex Pehas, Brookfield, Ill.; V. J. Perillo, Secane, Pa.; Bob Golubinski, Brooklyn, N. Y.; Clement Shablowski, Brooklyn, N. Y.; Lindsey Lawwill, Herrin, Ill.; John P. Thomson, E. Hampton, Conn.; Sam Machrone, Roselle, N. J.; Charles Shoy, Rochester, N. Y.; Arthur R. Tanner, Jr., Poughkeepsie, N. Y.; Norman Goldsmith, Memphis, Tenn.; Andrew J. Klobe, Seattle, Wash.; George Blinn, Wheatridge, Col.; Ralph Sealander, Rockford, Ill.; Joseph M. Metzner, Huntington, N. Y.; Charles W. Jones, Collegeville, Pa.; Oliver J. Ogden, Westbury, N. Y.; William A. Van Buren, Newark, N. Y.; F. N. Wachs, Mansfield, Ohio; Sgt. Gilbert L. Isley, Phoenix, Ariz.; W. C. Harrison, Omaha, Neb.; Ray Leyton, Muskegon, Mich.; Arthur E. Ader, Rolie, Iowa; L. A. McCormich, Anniston, Ala.; James E. Gross, Chicago, Ill.; Kenneth Chubbuck, Costa Mesa, Calif.; Steve Kukick, Lakewood, Calif.; Robert A. Irick, Bellefontaine, Ohio; Lloyd Schnuck, Jr., Atlanta, Ga.; Richard Holler, Cincinnati, Ohio; Mrs. J. W. Dalton, Sedalia, Mo.; Andrew C. Krotje, Middletown, N. Y. **Watch for names of more winners next month.**

[*Continued from page* 81]

the road. They come either with or without air suspension; we like it without. Compression ratio is 10:1; 280 hp at 4,400 rpm; torque 408 ft. lbs. at 2,800 rpm; 4.06 bore x 3.75 stroke; 8.00x14 tires. Wheelbase of the Chieftain is 122″; overall length 213.7″; overall width 80.7″; tread 63.7″ front; rear 64″.

Oldsmobile for 1959 is longer, wider and has a 46 per cent larger windshield in the four-door sedan. The trunk capacity has been upped 64 per cent! Jim McMichael, the world's foremost trunk-tester, has been gaining weight in order to keep pace with this trend. One of the things Oldsmobile is featuring in '59 is a rear window which, they claim, actually allows rear seat passengers to look up into the sky through the "heat resistant" rear glass. The Super 88 and 98 Oldsmobile for this year will have 394 cu. in. in the engine department. Larger intake valves have been added, according to Oldsmobile, which hardly seems surprising on a larger engine. The wheelbase of the 88 Series has been upped to 124 in. and the tire size on the 88 and 98 is now 9.00x14. The brakes have been increased in size.

The Super 88 wheelbase is 123″; overall length 218.4″; overall width 80.8″; overall height (four-door sedan) 56″; 20-gallon tank capacity; 394-cu. in. displacement; 4½″ bore x 3$\frac{11}{16}$″ stroke; 9.75:1 compression ratio; 315 hp at 4,600 rpm; torque 435 ft. lbs. at 2,800 rpm; weight 4,276 lbs.

Cadillac has really changed in '59; its styling throughout the line has been upgraded to resemble former Eldorado models. This year the engine is up to 390 cu. in., though remaining basically the same as in previous years. It has also been bored to four inches from 3.91 and the stroke has been lengthened from 3.31 to 3.875. Air suspension is on all four wheels, tied up with new Freon 12 shock absorbers which give "an amazingly soft ride."

Cadillac will also offer their own version of the Auto Pilot this year. Series '62' Sedan: wheelbase 130″; overall height 56.2″; overall length 225″; overall width 80.2″; OHV V8; 325 hp at 4,800 rpm; 10.5:1 compression ratio; torque 430 ft. lbs. at 3,100 rpm; 21-gallon gas tank; 8.00x15 tires.

The Rambler American, American Motors' hot-selling little cake, will add a station wagon in 1959. As far as this department can determine, this is a rebirth of the small Rambler wagon of several years ago. The American is a great buy and, if the station wagon isn't just a little too small for a wagon, it should prove a hot item, too. When these Americans were formerly known as just Ramblers they featured air-conditioning. It wasn't available on the American in 1958. *Why* is a mystery to this department and we think it's pretty stupid if it isn't this year.

The styling of the regular Rambler line for 1959 is very similar to '58 and, in this writer's opinion, not in nearly as good taste as the small American. Inline Six: L-head; 3⅛″ bore x 4¼″ stroke, 195 cu. in. displacement; 8.0:1 compression ratio; 90 hp at 3,800 rpm; torque 150 ft. lbs. at 1,600 rpm; 5.90x15 tires; wheelbase 100″; overall length 178$\frac{5}{16}$″; overall width 73″; overall height 57$\frac{13}{16}$″; tread front 54⅝″, rear 55″; 20-gallon gas tank capacity; weight 2,510 lbs.

The Ambassador looks like a Rambler with a longer name. If you make a practice of looking under all rugs, as I do, something hits you right in the eye: the four-door sedan only weighs 3,460 lbs., yet is powered by a 327-cu. in. engine developing 270 hp. As this is about 500 lbs. less than some deluxe models of Chevrolets, Fords, Plymouths and a few others, the Ambassador should be a real bomb. If the horsepower and torque figures (360 ft. lbs.) are right, this car might be able to kick hell out of the under-350 cu. in. class at Daytona.

The Ambassador is available with synchromesh, overdrive or automatic transmissions. The V8 engine has 4″ bore x 3.25″ stroke; 9.7:1 compression ratio; 270 hp at 4,700 rpm; overall width 72$\frac{3}{16}$″; overall height 57⅝″; tread front 57¾″, rear 59⅛″; torque 360 ft. lbs. at 2,600 rpm; 8.00x14 tires; 20-gallon gas tank; wheelbase 117″; overall length 200⅛″.

Summing up, it looks like it will be a busy model year for this writer. Back in '57 all cars were getting to be so much alike and performance so similar, there seemed to be little need for a car tester.

[*Continued on page* 146]

Wide range of photo aids includes wide-angle lens 35mm *f*/3.5, $57.50; telephoto lens 90mm *f*/4, $69.50; Multiframe Finder, $17.50. Many other specialized aids.

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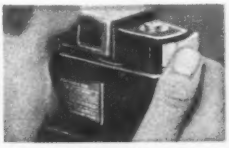

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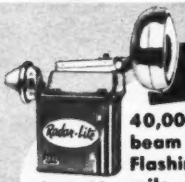

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The '59 Cars

[*Continued from page* 143]

When I started testing automobiles for MI 13 years ago, the American automobile was a pretty miserable hunk of nothing. By '57, due to the pressure of racing competition—and partly due to these car tests—every car on the road had improved in handling, roadability, suspension, brakes and performance. It began to look as if my working days were over.

I'm happy to report that I'm back in business again because I'm sorry to say that some of the worst-performing cars of the decade will be in showrooms this fall. Famous cars that handled well just a year or two ago have again become sloppy, ill-mannered and dangerous. Brakes have been improved on some cars in '59 but stability has been shot to hell in many camps. Performance in general, particularly acceleration, has fallen off considerably, except in one or two cars. Styling and that inevitable "softer ride" have taken the ball once again.

In our tests of the '59 cars during the coming model year we'll be pointing out some of these dangerous drawbacks in more detail. Meanwhile, be warned that '59 is a year for careful shopping. Some cars are greater than ever. Some are real dogs. And remember, it costs just as much to feed a mutt as it does a purebred. •

The '59 Chevy

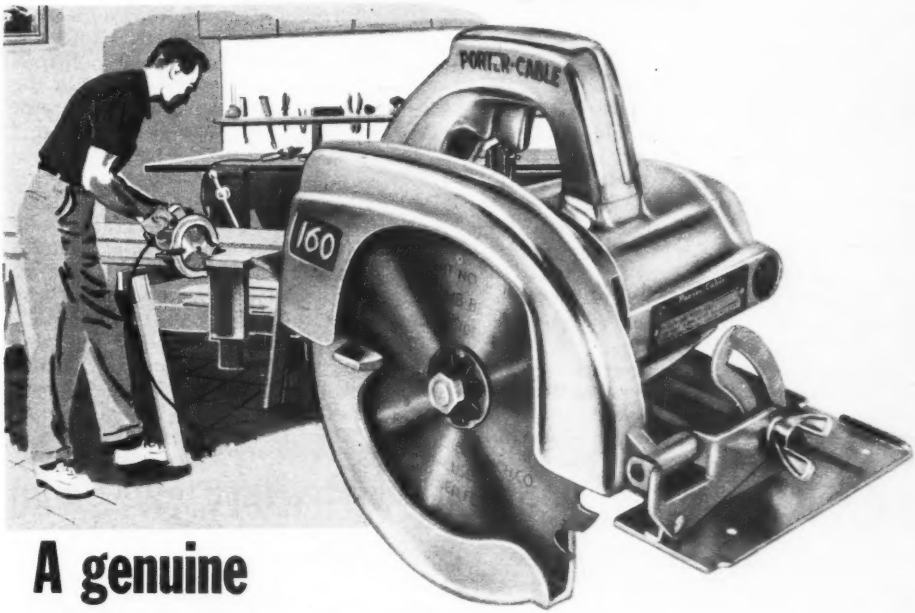
[*Continued from page* 85]

through the as-always-well-guarded gates, we headed for the Experimental Garage where we later spent some time yakking about racing at Daytona and Indianapolis with Mauri Rose, who competed 16 times at the Indiana Brickyard and won three of the 500-milers (in 1941, 1948 and 1949). Mauri is a GM engineer and headed up Chevrolet's successful racing team until the Big Three decided to get out of competition last year. Then, with one of Chevrolet's young engineers and a GM security cop as escorts, we were turned loose on the test track itself.

On the first hard turn around GM's handling course, the Impala shed hubcaps like confetti tossed at a gondolier's wedding. This was embarrassing but not disastrous. By the time the car is in produc-

[*Continued on page* 148]

Professional performance at a low price!



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[*Continued from page* 146]

tion the hubcaps, they assured me, will be glued on to stay; the car I was driving was, of course, a pre-production engineering model. The hubcaps, incidentally, have been slotted for better brake cooling, a trick Chevrolet picked up from their racing experience.

This big Impala (and it's bigger than the Cadillac of ten years ago) was equipped with air suspension, a system to which MI readers know I have never been lavishly devoted. It did take all the jolts out of the roughest test roads we went over. But it is my sad duty to report that this '59 Impala with air bags is not, by a long shot, the best handling or most roadable car Chevrolet has produced. As you readers know, I have always preferred the firm ride to the super-soft or mushy type. For 1959 almost all the manufacturers have gone back to the softer ride. Why?

In most auto camps this year—with the notable exception of one— they told me, "Motivational research shows that the average buyer is continually seeking a softer, more comfortable riding car." I don't know anything about motivational research but I do know that it is possible to have a top ride, top performance and real comfort all in the same package. There is no reason for sacrificing any of them.

In performance, the '59 Impala does not come up to last year's car. My 1958 test showed a respectable zero to 60 mph time of 10.4 seconds. In the 1959 car with the big 348-inch engine and a three-carburetor hookup, plus TurboGlide transmission, I averaged 13.1 seconds. The high-speed track was not available when I made my tests so I cannot report what the '59 Impala will do flat-out.

In all fairness, I must report that for 1959 Chevrolet is also offering the 283-inch wildcat engine (with a hot cam, if you want it), with manual shift and with a choice of either a three-speed or (an innovation this year) a four-speed transmission, about the finest made in this country today. I have no doubt that the right com-

[*Continued on page* 150]

NOW! The ABCO dual voltage battery gives you

12 Volt Starting Power from your 6 Volt electrical system

For

CAR • TRUCK • TRACTOR • MARINE

Now any car (or other equipment) with a 6 volt electrical system can have 12 VOLT STARTING POWER just like the latest models. You retain all the advantages of the 6 volt system, with 12 volt power to the starter only. Any mechanic can install the Abco automatic battery; diagrammed directions furnished for all cars. New type hold-down included free. 30 MONTHS GUARANTEE ON ENTIRE UNIT (BATTERY AND SWITCH). Made in one size—10¼" long x 6⅞" wide x 10⅝" high (including switch). *If your local garage can not supply you, order directly from the factory.*

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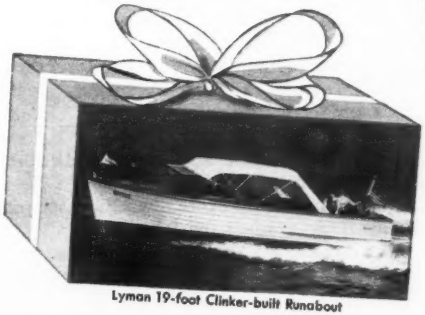
Battery is shipped dry charged; if acid is desired, add $1.50

McKean Blue Jay

Wagemaker Wolverine 17-foot Catalina


Lyman 19-foot Clinker-built Runabout

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Motordrome racing thrills in miniature!

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Pt. 95c ½ Pt. 50c

PROP ROD
RACER
$9.95

L. M. COX MFG. CO., INC.
P. O. Box M-476—Santa Ana, California

The '59 Chevy

[*Continued from page* 148]

bination of these options will go almost as well as the hot Chevies of old and I wish that I had had a chance to test one of them. I think that a Chevy with the smaller engine, and with coil suspension, would wind up like a siren on a Polish fire engine.

Perhaps the reason why the big luxury Impala's performance has dropped off this year is that they have increased the weight considerably without adding any compensating increase in muscles. The new Impala, which is nearly two inches longer and wider than the '58, has picked up almost 200 more pounds of weight in the body alone. Except for air conditioning, the rig I tested was loaded with all the accessories. This meant that the big engine added 119 lbs. to the basic weight of 3,655 lbs.; power brakes, 15 lbs.; heater, 24; deluxe radio, 13; power seat, 19; power steering, 15; air suspension, 37. (TurboGlide, however, only adds an extra two lbs. over standard transmission, while PowerGlide lumps on 102 lbs. more.) Any way you slice it, the once "little" Chevrolet has become quite a heavy-weight and, with air conditioning and other available stuff, it would be no trick at all to come up with a Chevy weighing well over 4,000 lbs.

The brakes on the Impala I tested were excellent, a direct adaptation from the competition Corvette brakes. They are a quarter of an inch wider and as sure of success as a loaded bank account. Inside the car, whose overall height is 56 inches, the front seats have been lowered to accommodate the new silhouette and there is plenty of headroom whether you are sitting in the front or back. The steering wheel, designed and positioned to give a good view of the instrument panel, has a sharper rake—or vertical angle—similar to many foreign sports cars.

The compression ratio of the car I tested, with three two-barrel carburetors, was 9.5:1. With the special available camshaft and a four-barrel carburetor, the compression ratio goes as high as 11 to 1. Horsepower on the 11:1 rig is an even 300; the engine on the job I tested put out 280. Fuel injection is still available on the smaller, 283-inch engine.

Summing up, the 1959 Chevrolet has the most radical styling of the new model year

[*Continued on page* 152]

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2.9 AMP HEAVY DUTY
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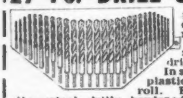
Reg. $39.95—Our Price **$14.95** plus 50c pp. & hdlg.

Ask any expert and he'll always say "RAM for Heavy Duty Work." Not just an ordinary 2, 2¼ or 2½ amp unit, but a powerful full 2.9 AMP. drill to do every heavy duty job in home, shop or industry. Built to take years of rough-tough use. Newer, more rugged motor gives ¼" capacity in hard wood and ¼" capacity in steel with a full load speed of 1200 R.P.M. Durable, mirror finished, lightweight aluminum housing. Features Universal, series wound AC-DC motor; heavy duty multiple thrust ball bearings; automatic release trigger switch with locking pin; 6 ft. 2 conductor, UL approved cord and plug. Standard 115 V. AC-DC. This powerhouse measures 9" in length yet weighs only 3½ lbs. If you've ever needed a drill or find that your present ¼" job just won't do the things you expect of it, ORDER THIS 2.9 AMP. ¼" RAM DRILL TODAY! Limited quantities.

CHROME VANADIUM 29 Pc. DRILL SET



Specially made for speed drilling. In sturdy plastic tool roll. Finest alloy steel drills hardened and precision ground to the sharpest, longest lasting cutting edge obtainable; will easily and cleanly bite through hardwoods, plastics, aluminum, iron and the toughest steels. Unconditionally guaranteed for thousands of drillings. Full jobber length. Sizes by 64ths from 1/16" to ¼". NOW..... **$6.49** ppd.
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SENDS—RECEIVES UP TO 10 MILES AS SHOWN
with built-in antenna or hundreds of miles with outside antenna! Works on 80 and 40 meter (Novice) amateur radio-bands—also Aircraft and overseas broadcast (3 to 8 mc). PORTABLE SELF-CONTAINED POWERED WITH STANDARD PORTABLE RADIO BATTERIES. NO AC PLUG-INS NEEDED! Take it with you everywhere you go—on trips, vacations, camping—Keep in contact with home, friends. Has 5 watt crystal controlled transmitter—Sensitive Regenerative Receiver. Send-Receive switch. Wt., only 3 lbs. Size, only 6"x4"x4". TESTED—PROVEN—SIMPLIFIED—PRACTICAL—Full information given on quick easy to get line-sales.

SEND ONLY $3.00 (bill, ck, mo) and pay postman $12.95 COD postage on arrival or send $15.95 for postpaid delivery. Complete kit includes all parts, tube, coils, plastoid cabinet, easy instructions. (Set of batteries $3.49; crystal $1.49) COMPLETELY WIRED AND TESTED POSTPAID $19.95. A regular $49.95 value—Order now before price goes up. GUARANTEED—AVAILABLE ONLY FROM: Western Radio, Dept. BHI-11, Kearney, Nebr.

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Write for free descriptive folder 23R

HAMMER BLOW TOOL CO.
WAUSAU • WISCONSIN

The '59 Chevy

[*Continued from page* 150]

—and this, they tell me, sells automobiles. If I have any knowledge of public reactions, this styling—with its touches of everything from Ave Maria to Basin Street—will be the talk of the automotive year. And if I am any kind of a prophet at all, when the sales box score for the 1959 models has been totaled up, I think it's a sure bet that Chevrolet will still be America's Number One Choice. •

Copter Cops

[*Continued from page* 68]

necks, perform emergency rescue work and provide fast aerial ambulance service, plus offering a more efficient pursuit of criminals.

MI's paddy-wagon for Copter Cops is based on the Army's specifications for a compact, high-lift aerial jeep. It takes the form of a stable "flying platform," built around three ducted-fan units. Each of these is fitted with a pair of contra-rotating propellers spinning on a horizontal plane to drive a column of air downward. The force of this airstream provides the machine's lift. Power is provided by twin gas turbines.

The vehicle is designed to carry three policemen, the minimum crew for efficient patrol work. In the event of a wreck, as shown, it lands on the central safety island with one of the crew clearing a space by directions called through an electric "bull horn." Upon landing, one of the men takes over traffic control while the other two place the injured on litters and lock them safely in place in the enclosed "litter wells" on either side of the copter's cabin.

The pilot then takes off for the nearest hospital, leaving his mates to superintend activities at the accident scene. Upon the patrol vehicle's return, a cable is hooked to the wreck and it is dragged or lifted to a safe spot off the highway.

With its inflated pontoon rim, MI's copter is capable of landing on land, water or in deep snow. A kit of emergency tools is carried and the crew is armed with rifles and sub-machine gun. Floodlights are set in the lower surface and a built-in loud speaker can be used to flag down an offending vehicle. •

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11' (Plan 35)—Fast, roomy car-top utility model.
13' (Plan 40)—Ideal for skiing and fishing or family fun.
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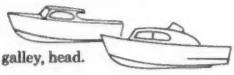
CABIN CRUISERS



18' (Plan 60)—Easy-to-build family day cruiser.
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ROWBOATS

8' (Plan 30)—Light, all-purpose pram. Takes small outboard.
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Use only Exterior plywood (EXT-DFPA®) for boats. Comes in several sizes, grades—including premium quality solid-core "Marine Exterior" for hull construction.

A Model Business

[*Continued from page* 71]

that hobbyists began putting miniature gas engines in them and racing them. Cox followed up by buying engines and putting them in the race cars himself. Until that time, there was no comparable metal car on the market. The only other one available sold for $104. Cox's car sold for $19.95. It was an immediate success.

The next logical step for Cox was to build his own small 1/20th cu. in. displacement engine which he called the 1-A engine.

Realizing that there would be a terrific future for powered models if engines could be built of dependably uniform quality, Cox and his crew went to work. It took almost a full year of research and $75,000 worth of engineering to find the answers and iron out the bugs.

The first of the current line of Thimble Drome engines, the Space Bug, was developed in 1951. About half the size of contemporary engines (.049 cu. in. compared to .099 cu. in.) and selling for $6.95 as against the average $20 cost of the larger engines, the Space Bug was an immediate success and still holds many of the speed and weight-lifting records in model aircraft competition.

Today, the L. M. Cox Company puts out an extensive line of ready-to-fly gas-powered model airplanes, a propeller-driven toy race car called a Prop-Rod, a gas-powered toy hydroplane, a line of six different miniature gas engines and accessories. With the exception of the all-aluminum Thimble Drome Skymaster which sells for $19.95, all the planes are made of plastic and range in price from $6.95 to $9.95 complete.

The quick-starting engines range in size from the .020 Pee Wee—the smallest glow engine in the world, weighing only 21 grams—to the larger .049 engines. They sell for from $3.95 to $6.95 each. They all use glow plugs which fire somewhat on the hot-head diesel principle, though they are actually not considered diesels.

The glow plug contains a tiny platinum filament which is heated by a battery for starting purposes. Once the engine is started, the filament gets heated by compression and the battery can be removed.

[*Continued on page* 159]

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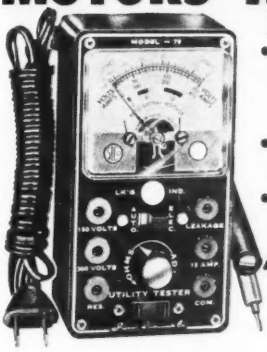
FOR REPAIRING ALL ELECTRICAL APPLIANCES MOTORS • AUTOMOBILES • TV TUBES



As an electrical trouble shooter the Model 70:

- Will test Toasters, Irons, Broilers, Heating Pads, Clocks, Fans, Vacuum Cleaners, Refrigerators, Lamps, Fluorescents, Switches, Thermostats, etc.
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- Will measure current consumption *while the appliance under test is in operation.*
- Incorporates a sensitive direct-reading resistance range which will measure all resistances commonly used in electrical appliances, motors, etc.
- Leakage detecting circuit will indicate continuity from zero ohms to 5 megohms (5,000,000 ohms).

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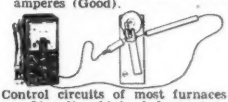
• Both 6 Volt and 12 Volt Storage Batteries • Generators • Starters • Distributors • Ignition Coils • Regulators • Relays • Circuit Breakers • Cigarette Lighters • Stop Lights • Condensers • Directional Signal Systems • All Lamps and Bulbs • Fuses • Heating Systems • Horns • Also will locate poor grounds, breaks in wiring, poor connections, etc.

IT'S SO EASY!!

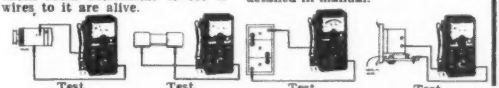
With tester's cord in outlet, current consumption of appliance is read direct on meter when line cord is connected to receptacle on panel. This typical iron takes 7 amperes (Good).

Small electric fan motor indicates 50 ohms (normal resistance).



Control circuits of most furnaces use 24 volts obtained from step-down transformer. Here's how to check room thermostat to see if wires to it are alive.

Manual supplied with Model 70 shows meter needle should move to right when test leads are connected to pins 3 and 4 of this 6AU6 tube. Procedure for testing all tubes used in TV are detailed in manual.



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This 64-page book—practically a condensed course in electricity. Learn by doing.

Just read the following *partial* list of contents:

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• How to test all TV tubes; also simple procedure for determining which specific tube (or tubes) is causing the trouble.

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Model 70 comes complete with above book and test leads. Only . . . **15.85**

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Try it for 10 days before you buy. If completely satisfied then send $3.85 and pay balance at rate of $4.00 per month for 3 months — No Interest or Finance Charges Added! If not completely satisfied, return to us, no explanation necessary.

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Please rush me one Model 70. If satisfactory I agree to pay $3.85 within 10 days and balance at rate of $4 per month until total price of $15 85 plus postage is paid. If not satisfactory, I may return for cancellation of account.

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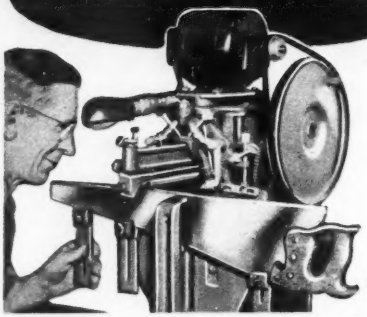
BE SURE OF A JOB



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Have you been laid off—or afraid you may be? If you want security, plus a bigger income too—don't look for a job—start your own spare time business. In his first 2 months J. P. Robitaille earned $300 with his Foley Saw Filer. From his starting day R. T. Hart made $600 in 4 months. Frank P. Layne wrote—"In our town of 2,800 instead of 200 to 300 saws I did over 1,500 the first year, averaging about $1.50 each."

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Send Free Booklet and Time Payment Plan on Foley Saw Filer.
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DRAINS cellars, cisterns, wash tubs; IRRIGATES - CIRCULATES - SPRAYS

1,001 uses. Stainless shaft. Won't rust or clog! Use 1/6 HP motor or larger. . . . 3/4 HP for up to 3,000 GPH; 450 GPH 80' high; or 1,800 GPH from 25' well. 1" inlet; 3/4" outlet. Coupling included free. $7.95

Heavy Duty Ball-Bearing Pump. Up to 7,500 GPH. 1 1/4" inlet; 1" outlet. $12.95

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CELLAR DRAINER
"Low Boy" KIT
15 1/2" high 1500 GPH.

$12.95 (less motor)
"High Boy"—32" high, 3,000 GPH
$15.95 (less motor)

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LEPAGE'S
TRADEMARK
TAPE AND GLUE

Mail For McCahill

[*Continued from page 56*]

mirror. I realize this sounds very complicated but it's actually quite simple. Anyone who wishes to utilize this idea of mine is welcome to do so, in the interests of safety. All seats would have, in addition to well-padded backs, well-padded headrests. This would eliminate the need for safety belts and be quite pleasant to drive, once you were used to it. Thank you for reading this letter.

Arthur G. Barnes
San Francisco, Calif.

I'd like to see what our artist-scientist, Frank Tinsley, could do with this. It sounds good to me, as I was always a backward boy.

● *We have been having an argument here in the barracks. I say an engine in an auto can run after the ignition is shut off because of the engine being too hot. Am I right or wrong? If wrong, how and why will it keep running?*

A/3c Francis E. Jackson
APO, N. Y.

The usual cause of an engine's running after it's been shut off are red-hot carbon or metal particles which keep igniting the fuel without the aid of a spark. In some cases, the electrodes in the spark plugs become so hot that they can cause an engine to run for a short time after the ignition has been turned off. This is rarely caused by more than one or two cylinders, and though I have seen a hot engine run for more than a full minute due to these unplanned little growplugs, the engine has no torque or power and can usually be stopped by just slamming her into gear. In the old days of the cast iron monsters this was very common but becoming rarer every day with our higher compression engines which require a lot of power just to turn them over.

● *What sort of a practical car would you recommend to a working girl who knows nothing about cars?*

Shelia Rosen
So. San Gabriel, Calif.

A Crown Imperial with a rich bachelor in it.

—Tom McCahill

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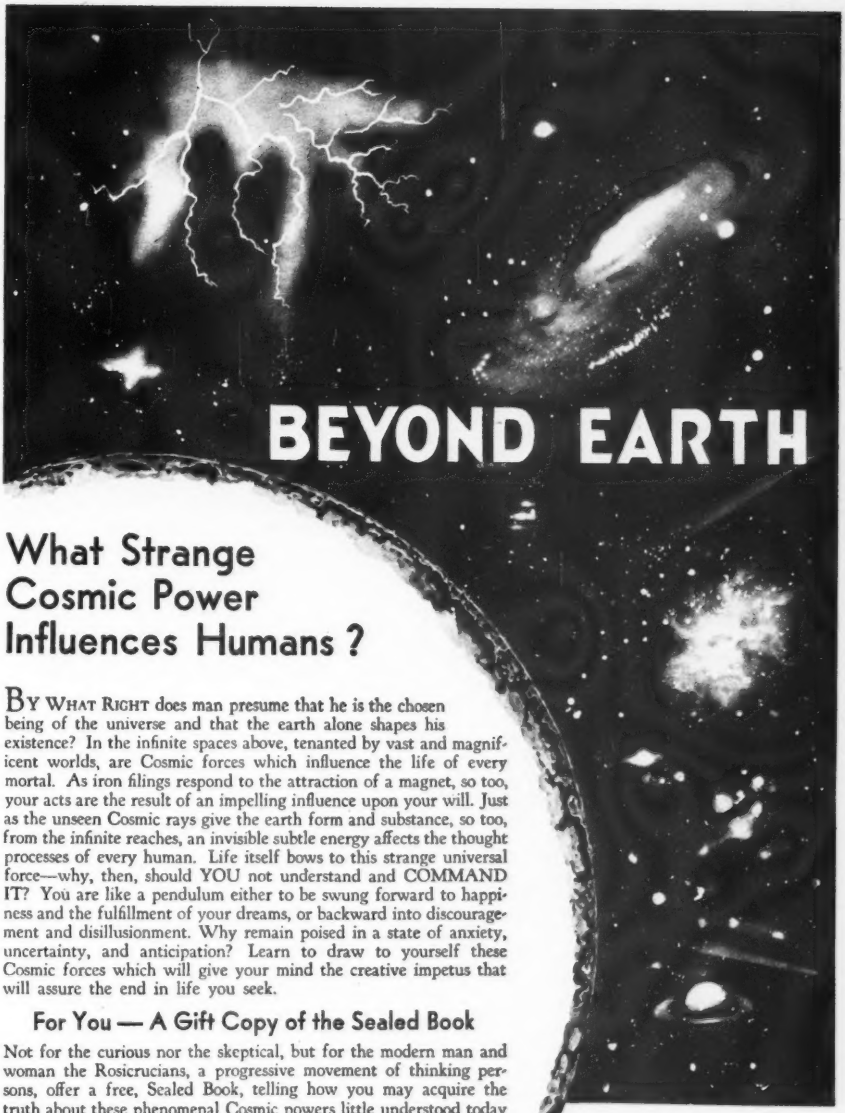

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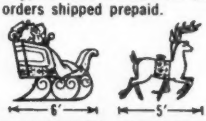

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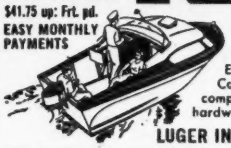

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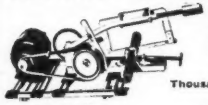

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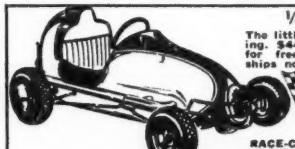

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DYNAMIC WELDER COMPANY, 1808 S. Federal St., Dept. D4-M, Chicago 16, Ill.

A Model Business

[*Continued from page* 154]

The fuselage and wings sections of the planes are molded in huge plastic presses, the dies for which are made in the Cox machine shop. In all, about $500,000 worth of machinery is used. The Cox company, which now occupies 30,000 sq. ft. consisting of two quonset huts and a two-story concrete building, employs an average of 250 people, some working two and three shifts a day, and is geared to turn out 6,000 planes a day.

Cox's Thimble Drome planes have been very consistent sellers. His best seller is the $7.95 Piper Super Cub which outsells all his other planes put together. However, that record may be broken by his latest introduction, a tiny $8.95 biplane dubbed the Li'l Stinker, which was brought out in January 1958.

For beginners, there's a specially designed trainer plane, the $7.95 Flight Trainer, which gives the novice a chance to develop his flying skills without fear of damaging the plane. Built completely of plastic, it is assembled with rubber bands in such a manner that upon crashing, it comes apart without breaking.

Quality and quantity have made Leroy M. Cox the flying giant of the Tom Thumb aircraft industry. •

Grouse Hunting

[*Continued from page* 87]

makes the girl grouse swoon. It is the mating call of the cock grouse as he struts a log beating his wings. The noise is made by the speed of feathers passing through the air. Listen carefully now. If you hear a dozen or more swains putting on their show for the girls, you can mark that spot down as a bonanza for October and November.

You have about 18 days in the north woods to make your nesting census and around 12 days, or less, in the southern parts of the ruffed grouse range. Those southern gal grouse work fast! In the north, ruffed grouse are called "pats" or partridge, and in the south, from Maryland down, they are known as pheasants.

Don't stay too long in any one spot when

[*Continued on page* 161]

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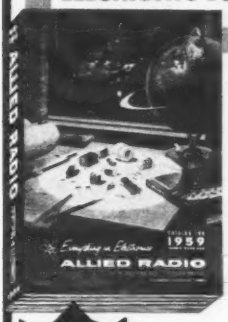

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Grouse Hunting

[*Continued from page* 159]

making the census. You have only 90 minutes a morning. An hour after sunrise, many cocks stop courting the females and think about their empty stomachs.

The next fall you're ready for business. But there are a few more things that will add to your fun. For one thing, you can limit your hunting to four hours a day. The first two hours of daylight and the last two are when the birds feed.

Walk slowly when you hunt. If you walk fast the birds are likely to freeze close to the ground and take off after you've passed.

I not only hunt slowly but stop suddenly every 100 feet or so for a minute or two, especially when I see good cover or a bunch of juicy clover or a stand of hawthorns or aspen. When you remain quiet and motionless, the birds get nervous. They finally can't stand the suspense and shoot up into the air.

Another excellent place to hunt grouse is a deep, wild ravine chock full of ripe grapevines. If it rains, look for the birds in the shelter of dense evergreen thickets or laurel growth, if you like getting wet.

There's no sport that takes more real shooting than grouse hunting. I prefer a 20-gauge featherlight, 26-inch modified barrel for fast shooting. And use low base shells with No. 9 shot. Too many fellows make the mistake of using No. 4 shot on grouse. You don't need such shrapnel and it gives far too few pellets and so thin a pattern full of big holes that you can miss with ease. Grouse are really thin feathered birds and very easy to kill—if you hit them. You don't need cannon balls.

Good luck! •

Learn While You Sleep

[*Continued from page* 63]

the sleepers can hear.

A number of other firms are in the business of providing sleep learning equipment. The Ben Sweetland Systems, Inc., of San Francisco, Calif., markets a record player and a lecture course. The Sweetland firm, which is opening branches all over the country, did $100,000 worth of business when it began only three years

[*Continued on page* 163]

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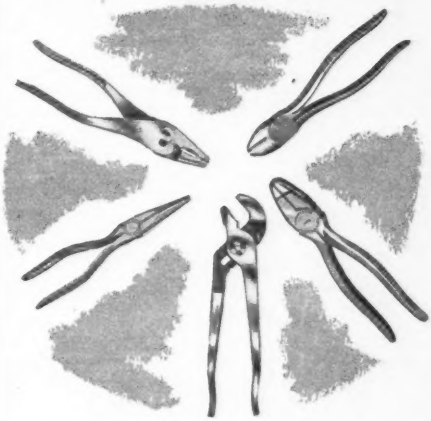

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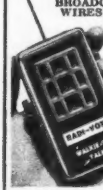

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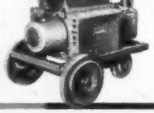

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Learn While You Sleep

[*Continued from page* 161]

ago. "This year," asserts 69-year-old Mr. Sweetland, "I'll be disappointed if sales don't exceed $1,000,000."

In Los Angeles the American Sleep Teaching Association and the International Sleep Teaching Institute—formerly the Cambridge Institute—report brisk sleep learning disc sales. In France, Jacques Genevay has just invented the Automatophone, a tape recorder which repeats a message over and over to a sleeper.

Sleep learning may sound mystical, even magical, but there's a logical explanation for the phenomenon. Researchers long ago discovered that the human brain never stops working, even in sleep. Only recently, the Sleep Research Foundation reported, following scientific studies, that while most of the lines between consciousness and the outside world are disconnected during deep sleep, certain vital trunk lines are always plugged in. For example, a bone-tired mother in deep slumber will not stir as airplanes roar overhead and trucks rumble by outside. But if her baby coughs or cries out in distress—though the sound by comparison is almost inaudible—she wakens instantly.

The important point is that *the brain is operative during sleep.* The conscious mind shuts off but the subconscious portion does not. Time and again, people have gone to sleep with a problem on their minds, only to awaken and find it solved. It was the subconscious, working while the outer mind was sleeping.

The sleep teachers argue that this subconscious mind is thus receptive to foreign languages, facts, figures and even therapy.

One of the most dramatic experiments in sleep therapy is now underway in the Tulare County road camp near Visalia, Calif., where some 100 convicts have volunteered to act as guinea pigs.

As the prisoners go to sleep, a recording plays at regular volume for a short time, then is shut off. An hour later, when the men are in deep sleep, the recording goes on again, this time much lower. Each convict hears the voice through a separate earphone near or under his pillow.

The voice, low but insistent, keeps droning into the sleeping men's subconscious:

[*Continued on page* 164]

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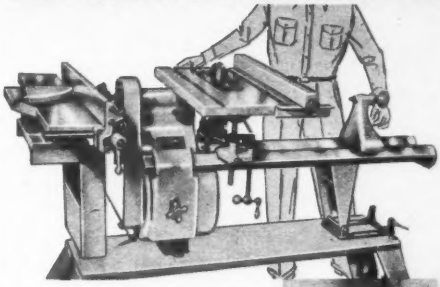

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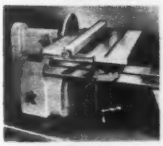
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Learn While You Sleep

[*Continued from page* 163]

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"Love shall rule your life. You shall love God, your family and others. You shall do unto others as you want others to do unto you. . .

"You shall have a major goal in life. You shall plan, carry out and attain that goal. You shall work and share with others. You shall grow in mind and spirit. You will attain self respect and maturity because you are good. . .

"You will live without alcohol. Alcohol is poison. You do not need alcohol. You can abstain from alcohol. Alcohol is repulsive to you. . ."

Already, 52 of the 100 prisoners have reported "substantial benefits" from the talks. One inmate told the superintendent that he always dreamed of liquor but "when I had the same dream last night it made me sick to my stomach." Another declared that the treatments made him feel that "people are not down on me." A third said the messages are enabling him to go to sleep "with a clean mind."

Is sleep learning fully accepted? At this stage, the method is frankly controversial. As a new scientific tool, it is still too early to determine its ultimate value. A number of fairly wild claims are being made by a few promoters, stirring the watchful interest of the Federal Trade Commission.

Nevertheless, the method is attracting increasing numbers of rabid adherents. The Wall St. Journal reports that already 100,000 persons throughout the country are enrolled in sleep-study courses.

Besides learning languages, they are building vocabularies, correcting speech

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defects, memorizing sermons, learning the Morse Code, getting sales pitches down pat and heeding all kinds of suggestions calculated to develop and improve their personalities. They are listening to records designed to cure insomnia, claustrophobia, fear of darkness, shyness and the cigarette and liquor habits. A whole new industry is arising, providing records and special equipment for the sleep learners.

More evidence is needed, of course, before the final score on this new educational tool can be properly assayed but if it fulfills its early promises the prospects are dazzling, to say the least.

Technological progress is proceeding at a bewilderingly rapid pace. In the past 20 years, man has piled up more complex lore than the world accumulated in the preceding thousand of years.

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Telescope Maker's Page

[*Continued from page* 141]

Construction. Cut a hole through the bottom of the bucket to accommodate the one-inch pipe. Drill a hole through a block of wood and place it in the bottom of the bucket as shown in the photograph. This helps position the pipe so that it will not move when concrete is poured around it.

The next step is to mix up a batch of concrete. A mixture of 2½ parts of sand to 1 part of cement is fine. Trowel the mix into the bucket as shown. Rest the bucket on some sort of a bench or horse as indicated, so that the pipe extending through the bottom of the bucket is clear of the ground. Fill the bucket or pail with concrete to about one inch of the top. Then insert three legs, each 11 inches long, so they will project about an inch beyond the rim of the bucket when it is turned upside down.

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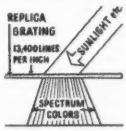

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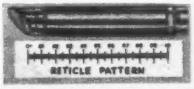

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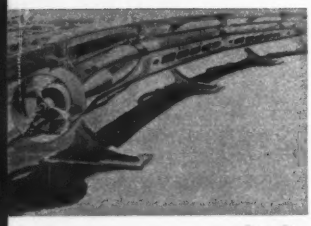

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VOLUME 54, NUMBER 12

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Phil Renfer

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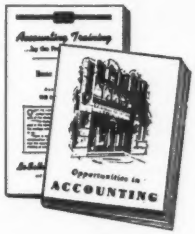

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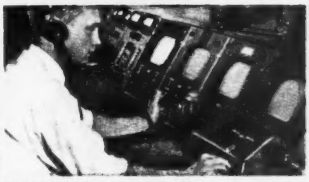

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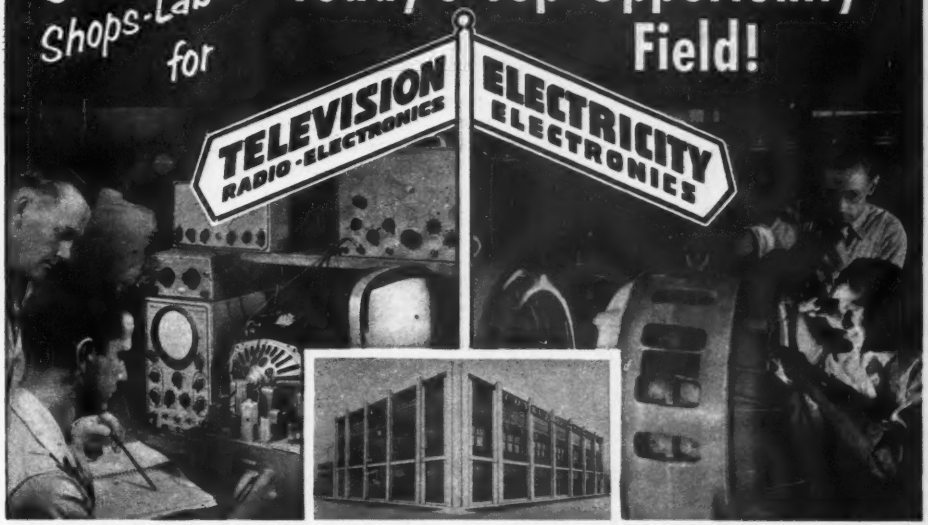

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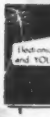

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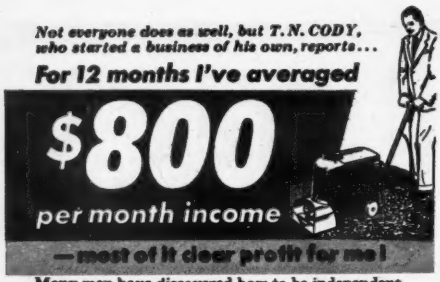

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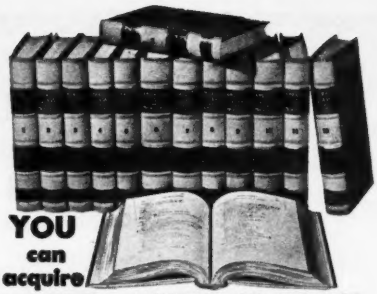

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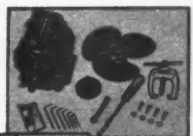

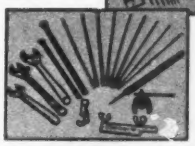

You build a heavy-duty, commercial-type, ¼ h.p. compressor (above). You assemble this unit in easy stages with kits that CTI sends. At left are photos of just two of the 25 kits. One shows mechanic's tools; the other depicts a motor, fan, pulley, other service tools. CTI practical training kits develop skill, provide experience, speed training!

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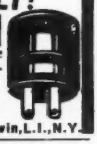

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The Patent Laws were enacted for the benefit of the inventor to give him protection for the features of his invention which are patentable. These features must be properly and concisely set forth and claimed in a formal application for patent, in order to comply with the requirements of the Patent Laws. For that reason, unless the inventor is familiar with patent matters, he should engage a competent registered patent attorney or agent to represent him. We are registered to practice before the U. S. Patent Office and are prepared to serve you in the handling of your patent matters.

A specially prepared booklet entitled "Patent Guide for the Inventor", containing detailed information with respect to patent protection and procedure, together with a "Record of Invention" form will be promptly forwarded to you without obligation upon request.

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Invention Clinic

Joseph H. Kraus

In this column each month Mr. Kraus will answer as many letters as space permits on those subjects he feels to be of widest general interest. Time does not allow him to reply to any letters except those printed here. Address your questions to the Invention Clinic, *Mechanix Illustrated*, 67 West 44 St., New York 36, N. Y.

Magazine And Book Holder

Edwin F. Smith of Prospect Park, Pa., has a patent pending on a metal magazine rack. How should he go about pricing and selling it, and how large an order must he have to begin on a sound basis?

Your present price is high for so simple an item, for which substitutes can easily be found. A sheet of metal can be bent to do the same job quite well. Your first step should be to select a likely market—doctors, for instance, who can use a space-saver like this in their waiting rooms. Then, with your market in mind, try to make a deal with a small shop to accept half cash on a trial production. The cost of 2,000 should be around $300. Your rack can be modified in many interesting ways—a luxury model in brass and plastic, standing on its own brass, rubber-tipped legs, for instance. You could shape the base to take hi-fi records. The item has a high potential and deserves positive action. This is a good example of the sort of thing the MIT boys and salaried inventors are not working on—and yet you may be able to sell it very successfully.

INVENTOR'S TIP OF THE MONTH

A sure fire item for the do-it-yourself market: a kit, with simple instructions, that would enable the average amateur to produce a piano finish on fine wood. Inventors might try for a pressure-applicable clear plastic, or for a varnish that can be guaranteed to stay bubble-free, and will not need rubbing down between coats.

Remote Control Car Starter

Robert Seall of Schiller Park, Ill., has designed and built a remote control and engine starter. Is there any market for it?

In the frigid North, yes—especially if sold as a you-do-it kit. Some safety device for garaged cars should be provided, and the automatic feature you describe should be standard. Have a search made, then try to market the kit if it proves patentable. You will have stiff competition shortly after you begin retailing, so prepare to cover the market fast and to retrench when the going gets rough.

List Of Patents

Sydney E. Pulver of Philadelphia, Pa., wonders if there is a list of patents according to type, which he might consult to avoid reproducing someone else's work.

The Patent Office publishes a weekly and yearly Index of Patents—but you would need years and years of these for complete title coverage and even then you could not be sure someone else hadn't patented your item under an unthought-of heading. Your mechanic's tool might be someone else's surgical instrument, for instance. You can search the records yourself at the Search Room of the Patent Office in Washington, of course. But the least expensive way is to ask your attorney to send you copies of the patents that relate to your area of interest.

Ice Hole Warmer

Laurence Wetzel of Wausau, Wis., has designed a heater to prevent ice from forming in a hole previously cut for ice fishing. Should he try for a patent?

Your principle is very old, having been used

[*Continued on page* 20]

INVENTORS

If you believe that you have an invention, you should find out how to protect it. The first step is to have a search made of the prior pertinent U. S. patents. If a report on this search indicates that the invention appears patentable you can apply for a patent, and the specifications and claims should be prepared.

The firm of McMorrow, Berman & Davidson, with offices in Washington, D. C., is qualified to take the necessary steps for you. We can make a preliminary search on your invention, advise you whether we think it can be patented, and prepare your application for patent.

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Send for a copy of our Patent Booklet entitled "How To Protect Your Invention," containing information about patent protection and patent procedure. Along with this we will also send you an "Invention Record" form, for your use in writing down and sketching details of your invention. We will mail them promptly. No obligation. They are yours for the asking.

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INVENTORS

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Invention Clinic

[*Continued from page* 18]

in the past to heat bathtub water and in elementary physics demonstrations. But if you can show that your device works better than an ordinary bucket containing a heating flame, I recommend a search. If you reach the point of designing a product for the market, remember that it must be simple to operate and durable, so that the user can haul it out each winter and put it right to work. Otherwise it will become one more discarded gadget, attracting no new buyers. The present design has weak places where leakage might occur; you can improve it by using a completely welded construction.

Manufacturer's Agreement

Paul Workman of Baltimore, Md., has submitted his adjustable pliers design to a leading manufacturer and has been asked to sign an agreement. Should he sign it?

Decidedly not—this agreement is intended for someone who does not have a patented invention. It would be absurd to sign away your right to bring suit for infringement. Tell the company that you hold a patent on the pliers and that you are willing to negotiate.

Luggage Weighing Handle

Willard E. Westman of Peterboro, Ontario, has a patent pending on a luggage handle with a built-in scale for weighing the luggage for air travelers. Has this a good chance on the market?

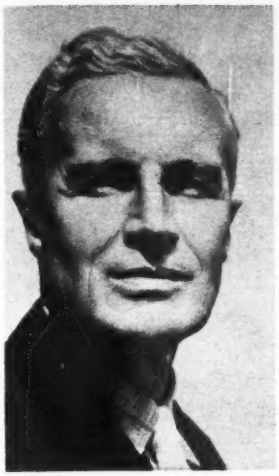
Yes—for its novelty value, or as an aid in selling some light-as-air luggage line. Makers of fairly heavy bags will not want it, naturally. As a regular air traveler I can say that it has little real value, especially as the baggage men would put it out of order after one trip.

Minnow Guard

Wilbur W. Mays of Philadelphia, Pa., sends drawings and details of a guard to surround bait fish. He has a patent pending. Should he try to sell the device now?

If your attorney thinks the action in the Patent Office has gone far enough to give you freedom of negotiation, yes. But you should

[*Continued on page* 24]



I'd like to give this to my fellow men...

while I am still able to help!

I was young once, as you may be—today I am older. Not too old to enjoy the fruits of my work, but older in the sense of being wiser. And once I was poor, desperately poor. Today almost any man can stretch his income to make ends meet. Today, there are few who hunger for bread and shelter. But in my youth I knew the pinch of poverty; the emptiness of hunger; the cold stare of the creditor who would not take excuses for money. Today, all that is past. And behind my city house, my summer home, my Cadillacs, my Winter-long vacations and my sense of independence—behind all the wealth of cash and deep inner satisfaction that I enjoy—there is one simple secret. It is this secret that I would like to impart to you. If you are satisfied with a humdrum life of service to another master, turn this page now—read no more. If you are interested in a fuller life, free from bosses, free from worries, free from fears, read further. This message may be meant for you.

By Victor B. Mason

I am printing my message in a magazine. It may come to the attention of thousands of eyes. But of all those thousands, only a few will have the vision to understand. Many may read; but of a thousand only you may have the intuition, the sensitivity, to understand that what I am writing may be intended for you—may be the tide that shapes your destiny, which, taken at the crest, carries you to levels of independence beyond the dreams of avarice.

Don't misunderstand me. There is no mysticism in this. I am not speaking of occult things; of innumerable laws of nature that will sweep you to success without effort on your part. That sort of talk is *rubbish!* And anyone who tries to tell you that you can *think* your way to riches without effort is a false friend. I am too much of a realist for that. And I hope you are.

I hope you are the kind of man—if you have read this far—who knows that anything worthwhile has to be *earned!* I hope you have learned that there is no reward without effort. If you have learned this, then you may be ready to take the next step in the development of your karma—you may be ready to learn and use the secret I have to impart.

I Have All The Money I Need

In my own life I have gone beyond the need of money. I have it. I have gone beyond the need of gain. I have two businesses that pay me an income well above any amount I have need for. And, in addition, I have the satisfaction—the deep satisfaction—of knowing that I have put more than three hundred other men in businesses of their own. Since I have no need for money, the greatest satisfaction I get from life, is sharing my secret of personal independence with others—seeing them achieve the same heights of happiness that have come into my own life.

Please don't misunderstand this statement. I am not a philanthropist. I believe that charity is something that no proud man will accept. I have never seen a man who was worth his salt who would accept something for nothing. I have never met a highly successful man whom the world respected who did not sacrifice something to gain his position. And, unless you are willing to make at least half the effort, I'm not interested in giving you a "leg up" to the achievement of your goal. Frankly, I'm going to charge you something for the secret I give you. Not a lot—but enough to make me believe that you are a little above the fellows who merely "wish" for success and are not willing to sacrifice something to get it.

A Fascinating and Peculiar Business

I have a business that is peculiar—one of my businesses. The unusual thing about it is that it is needed in every little community throughout this country. But it is a business that will never be invaded by the "big fellows". It has to be handled on a local basis. No giant octopus can ever gobble up the whole thing. No big combine is ever going to destroy it. It is essentially a "one man" business that can be operated without outside help. It is a business that is good summer and winter. It is a business that is growing each year. And, it is a business that can be started on an investment so small that it is within the reach of anyone who has a television set. But it has nothing to do with television.

This business has another peculiarity. It can be started at home in spare time. No risk to present job. No risk to present income. And no need to let anyone else know you are "on your own". It can be run as a spare time business for extra money. Or, as it grows to the point where it is paying more than your present salary, it can be expanded into a full time business—overnight. It can give you a sense of personal independence that will free you forever from the fear of lay-off, loss of job, depressions, or economic reverses.

Are You Mechanically Inclined?

While the operation of this business is partly automatic, it won't run itself. If you are to use it as a stepping stone to independence, you must be able to work with your hands, use such tools as hammer and screw driver, and enjoy getting into a pair of blue jeans and rolling up your sleeves. But two hours a day of manual work will keep your "factory" running 24 hours turning out a product that has a steady and ready sale in every community. A half dollar spent for raw materials can bring you six dollars in cash—six times a day.

In this message I'm not going to try to tell you the entire story. There is not enough space on this page. And, I am not going to ask you to spend a penny now to learn the secret. I'll send you all the information, free. If you are interested in becoming independent, in becoming your own boss, in knowing the sweet fruits of success as I know them, send me your name. That's all. Just your name. I won't ask you for a penny. I'll send you all the information about one of the most fascinating businesses you can imagine. With these facts, you will make your own investigation. You will check up on conditions in your neighborhood. You will weigh and analyze the whole proposition. Then, and then only, if you decide to take the next step, I'll allow you to invest $15.00. And even then, if you decide that your fifteen dollars has been badly invested I'll return it to you. Don't hesitate to send your name. I have no salesmen. I will merely write you a long letter and send you complete facts about the business I have found to be so successful. After that, you make the decisions.

Does Happiness Hang on Your Decision?

Don't put this off. It may be a coincidence that you are reading these words right now. Or, it may be a matter that is more deeply connected with your destiny than either of us can say. There is only one thing certain: If you have read this far you are interested in the kind of independence I enjoy. And if that is true, then you must take the next step. No coupon on this advertisement. If you don't think enough of your future happiness and prosperity to write your name on a postcard and mail it to me, forget the whole thing. But if you think there is a destiny that shapes men's lives, send your name now. What I send you may convince you of the truth of this proverb. And what I send you will not cost a penny, now or at any other time.

VICTOR B. MASON
1512 Jarvis Ave., Suite M-4-P
CHICAGO 26, ILLINOIS

Address mail to: MECHANIX ILLUSTRATED, Letters Editor, 67 West 44th Street, New York 36, N. Y.

● *Easy*

We greatly enjoyed your test to discover our "electric I.Q.'s" in the June issue. My own score happened to be an 88 (allowing one point for each part of the matching question). According to the scoring key, this makes me a "new wizard of Menlo Park." How do you reconcile this estimate of my abilities with the fact I know virtually nothing about electricity?

James D. W.
Wilmette, Ill.

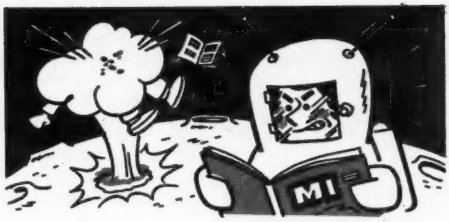
Obviously, you cheated. Mail back your Square Shooter's pin immediately.

● *Correspondence Chess*

Correspondence chess players should write to me about joining the 1,600 members of the Correspondence Chess League of America.

Dick Rees
816 So. Cecelia Street
Sioux City, Iowa

● *Explosive Subject*



So what's with moon craters? Has it occurred to those night peepers that they are caused by blastoffs of the Outer Space Patrol? That other deal about "Lousy Housekeepers:" The average male would scream with pain if one of us women asked for a livable house and furniture and adequate appliances. We gals don't build the house and furniture and appliances.

Lynn Hoffman
New Smyrna Beach, Fla.

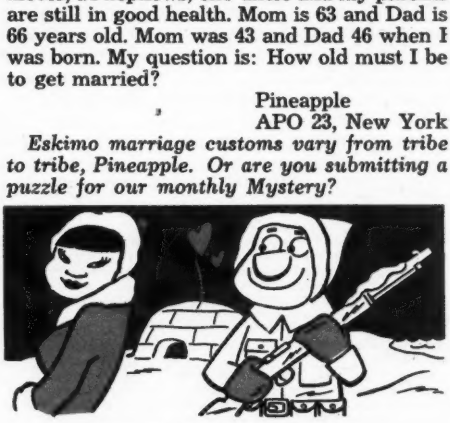
Lynn, your letter puzzled us until a girl in the office told us that "night peeper" is Campfire Girl for astronomer. Glad you liked the housekeeping article. Moon craters are caused by spacegirls reading MI, exploding.

● *Hah?*

I'm in the U. S. Army and am stationed at Thule Air Force Base, Greenland. I'm 20 years old and I live in Hawaii. I have one brother and 10 sisters. They're all married. I have 16 nieces, 24 nephews, one uncle and my parents are still in good health. Mom is 63 and Dad is 66 years old. Mom was 43 and Dad 46 when I was born. My question is: How old must I be to get married?

Pineapple
APO 23, New York

Eskimo marriage customs vary from tribe to tribe, Pineapple. Or are you submitting a puzzle for our monthly Mystery?



[Continued on page 29]

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Invention Clinic

[*Continued from page* 20]

make a working model and compare it in use with other bait containers now on the market, if only to beef up your sales pitch. Sportsmen will buy almost any new device, so yours has a good chance of making money.

Sandwich Grill

E. D. Williamson of Santa Rosa, Calif., says that he has developed a grill that will make five leakproof sandwiches at a time. How can he contact a manufacturer?

I can only guess at the nature of your invention, but you should know that a sandwich toaster was on the market a few years back that sealed a toasted sandwich so tight that even apple sauce could not leak through. The device could be used on a stove or a campfire, and it sold for a quarter. You'd better have a patent search made.

Toothpaste Cap

Gunnars Paegle of Poughkeepsie, N. Y., has designed a screw-type captive cap which he has submitted to a manufacturer. Is he free to promote it? Has it any value?

To the first question, yes—unless you have signed a contract forbidding it. To the second question, no. All types of captive toothpaste caps leave paste at the opening. Dirt gathers on it there and is deposited later on the toothbrush.

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Bottled Drinking Straw

Anthony R. Attler of Yonkers, N. Y., backs up my statement in the June issue concerning bottled drinking straws. He has a patent on one, and the device has found no favor with manufacturers. Mr. Attler feels that small inventors should avoid items that put them at the mercy of large concerns.

Inventors should always try to see things from industry's point of view. Your bottled straw has many disadvantages and, considering how many millions of perfectly happy customers the bottling companies sell to, there seems to be no great need for it. The slight novelty appeal a bottled straw would have could not offset the disadvantages of your particular design, which employs a straw longer than the bottle and a new type of cap to allow for this length. Why shouldn't the straw be allowed to float up after the cap is removed, or made springy enough to snap up?

Allen Wrench Improvement

Cecil Highfield of Tuscaloosa, Ala., sends diagrams and a description for a modification of the Allen wrench. This has been given "on the job" tests and found to be a great improvement. What is our opinion? Who would be interested in this invention?

We can picture a dozen positions where your "improvement" would be completely useless. You require that parts be machined —and weakened—at an expense far in excess of present costs. A small nick, or piece of grit, will prevent your tool from operating. Your one advantage is that the tool is easier to fit to a ratchet handle. If this is the desire, it might be more advantageous to change the handle fittings. As you say you are protected, we suggest that you send the design to some manufacturers of these wrenches and obtain their reaction. We doubt you will get a favorable reply.

Violating a Patent

Howard Pelan of Centredale, R. I., wants to know if it is true that anyone is free to make a patented article.

It certainly is. But if he benefits from so doing, either financially, or in any other way which can be measured directly or indirectly, he opens himself to suit for damages should the inventor learn about it and decide to bring action. •

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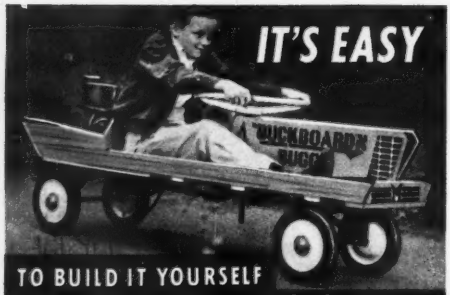

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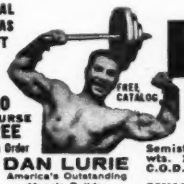

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Dear Editor

[*Continued from page* 22]

• *December Mystery*

Four men, one of whom was known to have committed a certain crime, made the following statements when questioned by the police.

Archie: Dave did it.
Dave: Tony did it.
Gus: I didn't do it.
Tony: Dave lied when he said I did it.

If only one of these four statements is true, who was the guilty man? On the other hand, if only one of these four statements is false, who was the guilty man? (From 101 Puzzles In Thought And Logic, by C. R. Wylie, Jr., Dover Publications, New York.)

• *October Mystery Solved*

Mr. Moneybags takes the same train home every night. It pulls into his suburban station at four p.m. exactly; at the same moment his chauffeur drives his car up to the station. Mr. M. hops off the train into his car and is driven directly home. One day he takes an earlier train, without phoning home, and arrives at the station at three p.m. He decides to walk home; on the way he meets his chauffeur coming to meet him as usual. The chauffeur stops, Mr. M. hops in and they turn around and drive home, getting there 20 minutes early. How long had Mr. M. been walking? Answer: 50 minutes.

M. R. Cohen
Providence, R. I.

• *Tape Clubs*

More Fun From Your Tape-Recorder was a great article but Mike Sheridan didn't mention "Tape-Respondence." Exchanging tape letters is one of the greatest uses of the tape recorder. If any MI readers are interested in joining our "Tape-Club" they can write to me and I'll send them a list of tape organizations.

I also invite local and national clubs to write me, as I am interested in compiling a list of tape clubs. Please enclose a four-cent stamp.

W. R. Sheasby, Jr.
215 North Baldwin Avenue
Sierra Madre, Calif.

[*Continued on page* 31]

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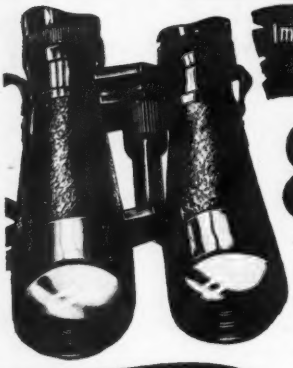

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Dear Editor

[Continued from page 29]

• *Old Car Authority*

Where can I turn for identification of bygone makes and models of cars? I am making a collection of car pictures (since I am too poverty-stricken to rebuild antique autos) and I keep running into pictures of old cars no one recognizes.

Harvey Kramer
Kansas City, Kan.

Try the Curator of Land Transportation, Smithsonian Institution, Washington, D. C.

• *Northward, Ho!*

What city in Canada, with 200,000 or less population, would be ideal to visit and find plenty of construction work? Am bachelor, 29 years old and have 11 years of home-building experience. Wages must be at least $125 a week. Would prefer to live in private home on arrival there.

Henry Quetel
P.O. Box 402
St. Thomas, Virgin Islands

If you aren't flooded with answers from Canadian readers, and even if you are, you might try writing to the Canadian Embassy, Washington 6, D.C.

• *Queries*

I wonder if one of the readers of our magazine could supply me with a copy of Panning Gold by F. J. Willis?

B. Grant
114 Peel Street
Glace Bay, Nova Scotia

I have recently taken up the task of rebuilding an Ampico grand player piano and am in very great need of information.

I. B. Friedman
854 N. Laurel Ave.
Los Angeles 46, Calif.

Maybe a reader will be able to help you, I.B.; meanwhile you might try writing to the American Society of Piano Technicians, 1121 Drew St., Houston, Texas.

Thomas P. Graham, 1209 Fifth St., Radford, Va., collects and repairs old clocks, would like to contact others interested. Robert Raese, Davis, W. Va., is hunting for plans for a plywood horse-drawn sleigh he saw a few years back. •

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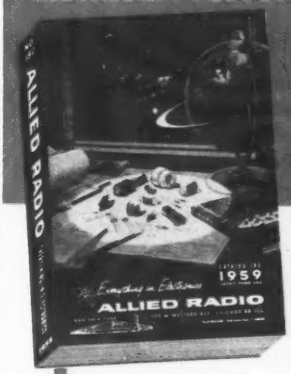

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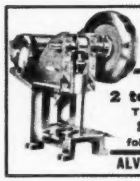

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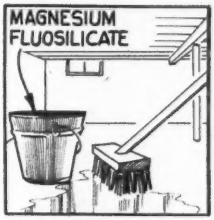
How can I prevent the new stone veneer on my house from sweating after a rain? E.L.T.

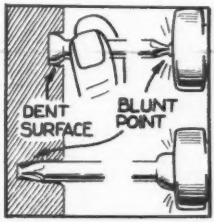
First, make sure no water is getting behind the stonework. You can then coat the stone with any one of several types of commercial transparent waterproofers or silicones. These will brighten the stone but will not change its general appearance.

The concrete floor in my basement gives off dust. How can this dusting be stopped? J.S.T.



You can make your own surface hardener by mixing 2½ lbs. of fluosilicate in a gallon of water. Brush three coats into the concrete letting each coat dry before applying the next. Scrub clean a few days later. Then wax or paint the floor if desired.

When I drive nails into redwood it invariably splits when nailed near the end of the board. How can this be avoided? D.V.K.



Use thin or screw shank nails. Reverse finishing nails on the spot they will go and dull their points with a hammer blow. This also causes the nailhead to bruise the grain and prevents the nail, when driven, from splitting the wood.

How can I remove discolored spots from my newly installed wood floors? A.E.T.

Sand these spots down and then apply a mixture of oxalic acid crystals dissolved in water; mix ½ lb. of crystals with 1 pt. of hot water, increasing the strength if necessary. Wear rubber gloves and goggles for this job.

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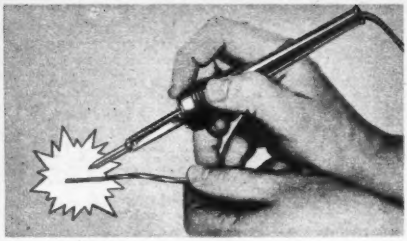

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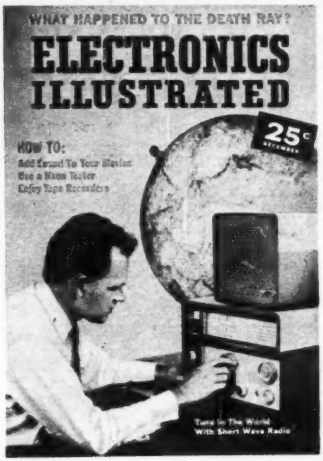

More people are discovering the excitement of short wave listening. ELECTRONICS ILLUSTRATED tells you all about it in its December issue, with two special features:

Tune in the World with Short Wave: the first in a series by Jack Gould, popular radio-tv editor of the N. Y. Times. He tells of the excitement and pleasure to be had by listening in on short wave bands.

Receive Short Wave on Your Home Radio: how anyone can convert a simple AC-DC table model radio into a short wave set.

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A 39¢ Test Instrument: how to use this simple neon bulb tester; handy for testing radio, tv, appliances, etc.

OF GENERAL INTEREST:

Get More Out of Your Tape Recorder: a picture story showing 10 ways to get more fun and use from a tape recorder.

El Interviews the Crew of the Nautilus: an exclusive interview with the Captain and Navigator of America's first atomic submarine.

What About Mid-Air Collisions?: latest developments in air traffic control. How we'll deal with crowded airlanes in this jet age.

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PATENTS GRANTED

CHAMPAGNE lovers will be saddened to learn that the flying cork may be a thing of the past. Stephen Martinelli has invented a crown-capped effervescent wine bottle with a plastic reseal closure that eliminates the need for corkscrews, pliers and ducking the cork. Mr. Martinelli won patent 2,851,183.

A boat with retractable wheels that can be trailed behind a car and rolled right into the water took patent 2,851,705 for inventors Hyrum Smith, Richmond, Va., and Ulysses Bartmess, San Pablo, Calif.

Giant airplanes can now be housed in inflatable hangars made of an impermeable fabric divided into cells that take air and helium gas for their support. The hangars can be huffed and puffed into shape in a very short time. Goodyear Aircraft Corp. inventor Earl Leatherman, Akron, Ohio, was granted patent 2,850,026.

The dishwasher's lot may be brightened with the self-rinsing sink invented by James Jacobs, Dayton, Ohio. A rinsing ring is set into and around the top of the sink. The rinsing ring directs water along the inner walls of the sink to rinse any material collected on the sink walls downward and into the drain. Mr. Jacobs got patent 2,847,681 and assigned patent rights to General Motors Corp.

A glass building brick that deflects the light and heat away from the eyes and throws sunlight on the ceiling, giving a pleasant effect of indirect lighting with no loss of light through the blocks, won patent 2,844,998 for Dr. Harvard Vincent, Toledo, Ohio.

Removal of a turkey's skeleton from the inside is a neat trick, if you can do it, and Peter Sieczkiewicz, Westerly, R. I., has done it. He was given patent 2,844,844 for his method of completely deboning a chicken, turkey, goose or the like, while maintaining the original appearance of the bird.

A toy rocket that floats to earth by parachute after its fuel is expended earned patent 2,841,084 for Orville Carlisle, Norfolk, Neb. The rocket may be fired again by means of a replaceable fuel cartridge. (See MI, Oct., '57)

Raymond Bliss, Jr., Amado, Ariz., got patent 2,838,043 for his invention of a self-draining water heating system powered by heat from the sun. •

Look what you can do with the world's first *Rotary Action* Paint Gun!

General Electric Powered Rogers ROTARY PAINT GUN

Who ever heard of painting *around* a white glove with even the most expensive professional, compressor-type paint gun? Now you can—because the amazingly low cost Rogers Rotary Paint Gun with revolutionary rotary action (no air pressure, nozzle, strainer or needle) *paint a straight line* from ¼" to 12" wide! Practically no misting—overspray—or splatter. Eliminates 90% of masking and touching up. Paints anything. Saves money, paint, time! Delivers as much paint as ½ H.P. Compressor Models costing up to $200. **$49.95**

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SEND ONLY $10 • EASY PAYMENTS • MAIL COUPON TODAY!

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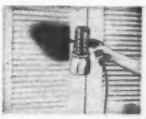

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Send me the Rogers Rotary Action Paint Gun PLUS MY 2 FREE QUARTS OF NU-ENAMEL PAINT. I am enclosing $10. ☐ Cash, ☐ check, ☐ or M. O.

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IF YOU'RE interested in making money in selling, see the hundreds of exceptional opportunities in Salesmen's Opportunity Magazine. Send name for your copy, absolutely free. Tell us what you're selling now. Opportunity, 848 N. Dearborn, Dept. 19, Chicago 10, Ill.

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Mail for McCahill

Uncle Tom is sorry he can't answer all his mail personally. In this column he'll answer the most interesting letters. Write to him at MECHANIX ILLUSTRATED, 67 West 44th St., New York 36, N.Y.

● *McCahill, as far as I'm concerned, you've had it! I've been with you for almost 15 years and have seen you fight automatic transmissions and a dozen other gadgets, but when you come out in favor of that silly Chrysler gimmick, the so-called "Automatic Pilot," I'm through. Goodbye.*

Jack Stover
New Orleans, La.

A week ago, Jim McMichael and I drove from New York to Chicago using the Auto Pilot in my Imperial. We made it in 12 hours and 48 minutes (the crack 20th Century train takes 17 hours). On our return trip we did it in just over 13 hours. The gimmick, however, is that there was no effort involved and we averaged better than 60 mph both ways. Our gas mileage for the round trip was 18.2 mpg. This was no trick economy run, just a straight unprepared business trip. How did we do it? Well, we could undoubtedly have made it just as fast or even faster without the Auto Pilot but we sure would have been twice as tired. It all boils down to this: On long turnpike trips, and even in open rural areas, you or I or anyone else simply can't drive over a period of time as well as this gizmo. Without the Auto Pilot our mileage would have been *down* two or three miles per gallon and my bushed point *up* 100 per cent.

● *I've been in the wig business for years and can't understand why a man as prominent as you would allow himself to be stamped bald-headed. If you had been smart, when you first started to lose your hair you should have bought a small hair piece. As time marched on this could have been added to and you wouldn't look like the old wreck you are now. Actors have been doing it for ages. Guess you are just a dope.*

B.L.T.
W. 47th St., N.Y.C.

Personally, I feel there is nothing more desirable than an all-leather upholstered top. I've been fighting mouse-fuzz head pieces for years.

● *Understand some years ago you won the "Duck Shooting Championship Of America." If this is true, and the event is still being held, how can I enter and what does it cost?*

Chas. A. Atley
St. Louis, Mo.

Yes, I won it back in 1956. It is an annual event. The entry fee is $100 and you can obtain further information by writing to: David J. Hasinger, President, Duck Shooting Championship Of America, 1801 Courtland Street, Philadelphia 40, Pa.

● *While playing golf last week, like a dope I left all my car windows down because it was hot. A sudden violent thunderstorm came up and when I finally returned to my car there was a good two or three inches of water on the floor. The rear carpet was completely under water. When I ripped it up I still found the water impossible to bail out as it was in all the corners. It was a mess. I had four people to drive home from the club in what resembled a leaky rowboat. I solved the problem by getting a spike and hammering several holes through the steel flooring, which allowed the water to drain out. How about advocating self-bailing automobiles?*

F. H. Rodgers
Cincinnati, Ohio

Oddly enough, I had the same problem in a convertible I was testing in Florida last winter. The back window of the car was out during a heavy rain storm and there were two or three inches of water on the floor of the car. I believe I solved the problem in a simpler way than you did. As the car was parked on a dock near The Rooster, I boarded my boat and came back with a revolver and shot five holes through the floor. I've often wondered since how the guy who eventually bought this car reacted to the bullet holes.

[*Continued on page* 50]

● *From many things you've written it's quite obvious to me that you think nothing is as good as it was years ago. Right?*

H. Farnum
Santa Fe, N. M.

Wrong, dead wrong. We've lost a lot but, beyond a doubt, for everything we've lost we've gained a lot more. Quality of Workmanship is only an expression these days and still exists in only a few products. To mention Pride of Work today is to mark yourself as a king-sized square. However, our overall standard of living has more than doubled and trebled. John D. Rockefeller never had or saw television (on this point maybe he was lucky—but thousands of others living on small incomes in their declining years wouldn't agree). J. P. Morgan never had air conditioning on his ocean liner-like yacht but I have it on my pint-sized cruiser.

If you go into household appliances such as dishwashers, blenders, modern stoves and refrigerators—these things almost offset the retinues of servants only our most successful men had 50 years ago. Yes, things are better even in automobiles, though they may fall apart. Any guy who'd choose the finest car built in the world 20 years ago for a coast-to-coast trip over any of today's cheapest models would be an idiot.

Twenty years ago, less than 40 per cent of the cars sold even in the most Northern states had heaters; none had air conditioning; none could get to 60 mph in less than 20 seconds. They steered like trucks of the day, had very little luggage room, 95 per cent of them wouldn't do an honest 80 mph and most of them needed a major overhaul at 50,000 miles. Our sleaziest stampings of today can all top 100,000 miles (if not driven by a lunatic) before major work is called for, even though the workmanship is crummy and you may have to spend a lot of time getting them screwed together right in the first few thousand miles. Yesterday's cars were better-built and the unessential basic accessories were far superior in basic quality. But today's cars, with all their shoddy shortcomings, are miles ahead overall.

● *Every morning when I start off for work in my car I get a heavy thump-thump for a mile or two and then it goes away for the rest of the day. My mechanic tells me this thumping is caused by my tires that go out of round when parked during the night. I have a heavy broken-stone drive under my carport. If my mechanic is right (and I doubt him somewhat) could these stones be ruining my tires?*

G. F.
Westport, Conn.

Your mechanic sounds right to me. Oddly enough, the better grade tires go temporarily out of round quicker when parked for long periods than cheaper grades, because they usually contain more real rubber. Continual long parking periods on very rough surfaces such as heavy crushed stone can cause real damage in time, especially to tires that are past middle age. Try parking your car some night on soft grass and see if that doesn't make a big difference.

● *I've got a husband who would kill you. We have a narrow, cheap garage attached to the house and a big, fat car that can just squeeze into it. Twice dear hubby has rubbed a foot of paint off the fender. But not me. Every time I have the car out and come home, he busts through the door screaming like a madman and won't let me drive into the garage until he runs inside first so he can shout directions and wave me in with outraged gestures and expressions. Several times I've thought to myself if I should step on the gas I'd have him pinned to the back wall like a butterfly. He's insured. Personally, I think this would be the almost perfect murder. Who could prove different? If you can think of any flaws, I wish you'd print them.*

Helen the Thinker
Philadelphia, Pa.

I like the way your letter starts: "I've got a husband who would kill you." Boy, what *he* might be able to write! (That is, if he does it real soon.) Helen, you sound like a sweet girl, in a grisly sort of way, but to answer your question: Don't do it as long as he buys MI every month. If he misses an issue, POW!

● *I see New York State has taken your advice on two counts: made it illegal to have baby shoes and other gook hanging from rear view mirrors and also passed a law against getting out the driver's side in big city traffic. Did anyone give you any credit for doing this?*

George Bryan
Brooklyn, N. Y.

I'm lucky if they don't send me a bill for the paper used in making it an ordinance.

● *I'm an airline pilot with an overseas run. I own a 1955 Chevy which I use just for getting to the air terminal. Several times when I've been out of the country for a few days there was definite evidence that my car had been used, even though I had the keys in my pocket. I started removing the distributor rotor every time I left it and this*

[Continued on page 52]

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Mail For McCahill

[Continued from page 50]

worked for almost a year. But now the car's being used again. Undoubtedly some joker around the airport figured it out and got himself a Chevy rotor. As this has happened to several other pilots, what's an easy answer? The cars are always returned but sometimes in pretty messy condition and usually without gas.

Capt. H.
N. J.

Looks like your biggest danger would be in the event your car kills someone or gets in some other jam while you're out of the country. I'd call the police in on this right away; it's too risky to fool with. If they fail to cooperate you could get together with some other pilots who have similar runs and make regular checks on each other's cars. If one is missing, call the cops and wait. The hitch driver probably works there too, or lives nearby. Sure, you could make the car inoperative with hidden fuel cut-offs or electric grounds that couldn't be seen—but why fool around? Nail him.

● *I have heard that the safest place in the world to be during an electric storm is in a closed automobile. Is that right or wrong?*

Mary Jean Healy
Toledo, Ohio

From lightning, yes. From falling trees, no. If you get caught in a bad electric storm, you're perfectly safe if you drive to an open spot away from big trees. Stay in the car because the moment your foot touches the ground you may be electrocuted if a big charge of lightning should pick that instant to strike.

● *Some of the kids out here have windshield washers that are aimed to the side and can throw water a good 10 or 12 feet when they push something. A favorite trick is to slowly slide up to a car waiting for a light and then spray the driver, especially if it happens to be a woman. Can't you write something to stop this?*

W. C. Storrs
Los Angeles, Calif.

What do you mean by "something"—my dim-witted Congressman? Anyway, it could be a lot worse; they might use India ink.

Up to 35 miles per gallon with this Prefect model

Compare its low price with any other leading import!

Slip easily through traffic, park in places most cars must pass by. Yet four people ride in comfort. For further information write: Imported Car Sales, Ford Motor Co., 34 Exchange Place, Jersey City 2, N. J.

Made in England for Ford Motor Co., Dearborn, Mich. Sold and serviced in the U. S. by its selected dealers.

English FORD Line

● *Will an extra-heavy coat of wax keep my body from getting scratched when I go to my camp in the woods?*

Muriel K.
Hartford, Conn.

Wouldn't it be simpler to change your camping companions, Muriel? Sounds to me like you're hanging out with the Wrong Sort.

● *What's the best way to keep chrome from rusting or pitting?*

Carl Metz
Memphis, Tenn.

Sand it and paint it.

● *I get quite a boot out of all the sniveling over the decline of the American automobile business. Might we say "the balloon-building business has burst?"*

Fred L. Story
Coventry, England

By heavens, Fred, that is a good one!
—*Tom McCahill*

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Now...See in spite of

BRACE YOURSELF! Here comes another driver who hasn't dimmed his lights. He's 175 feet away. Your vision of your side of the road is "washed out" by his glare. Then after you pass, it takes precious seconds for your eyes to readjust to the reduced light, and you still can't see the road ahead clearly. It's like entering a dark theatre on a sunny day!

New G-E SUBURBAN Headlamps have

No other 2-headlamp system ever gave you as much light *in the low beam* as new General Electric SUBURBAN Headlamps. And you *need* more light in the low beam when meeting oncoming cars—even if the other driver dims his lights and has them aimed properly.

This new General Electric low beam filament is *optically centered* in the reflector—gives a "built-in spotlight" effect, puts more light where you need it to make passing easier and safer. Helps you recover your vision more quickly when the other car has passed.

Have a pair of new G-E SUBURBAN Headlamps installed and aimed by your

the other car's lights!

NOW YOU CAN SEE in spite of the other car's lights—better than ever before, because you have new G-E SUBURBAN Headlamps. Their "built-in spotlight" effect in the low beam projects more light along the right shoulder, helps keep your eyes on your side of the road. Now you can spot that fallen box at the 200-foot mark—which you *couldn't* see with old headlamps.

a "built-in spotlight"...in the low beam!

dealer, garage or service station! General Electric Co., Miniature Lamp Dept., Nela Park, Cleveland 12, Ohio.

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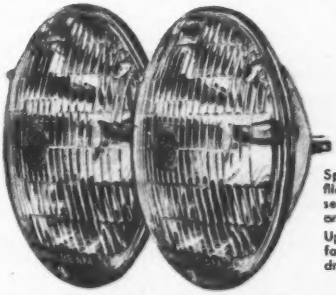

Special low-beam filament shield lets you see better in fog, rain or snow.

Upper beam reaches far and wide for safer driving on open road.

How often have you heard these sad good-byes?

"I'M SORRY, BUT WE'RE ONLY CONSIDERING HIGH SCHOOL GRADUATES FOR THIS JOB."

"SEEMS LIKE YOU MIGHT HAVE WHAT IT TAKES—BUT WE'RE NOT HIRING INEXPERIENCED MEN."

"YOU'D NEED PLENTY OF TECHNICAL TRAINING FOR THIS JOB. WE CAN'T TAKE TIME TO TRAIN YOU."

WHY NOT DO SOMETHING ABOUT IT?

Complete your education in TODAY'S ARMY

1. GET A HIGH SCHOOL DIPLOMA... If you're now in school—by all means *stay in school!* But if for some reason you've missed out on a high school diploma, here's how Today's Army can help you:

The Army gives you a General Education Development (GED) test that reflects your schooling, experience and general knowledge. Your exam results indicate how far along you are toward meeting high school diploma requirements. (Based on their GED score—some men qualify for a diploma *immediately!*)

If you need further schooling, the United States Armed Forces Institute (USAFI) offers 48 high school academic and technical courses. And there are even opportunities for regular classroom instruction right on your post. Thousands of soldiers have completed requirements for high school diplomas through the Army's educational program. So can *you!*

2. EARN COLLEGE CREDITS... Through USAFI and cooperating universities throughout America and overseas, you can earn college credits without worrying about expensive tuition bills. You can take your choice of more than 60 college correspondence courses from USAFI—and take as many as you like for one $5 entrance fee plus cost of textbooks. Want to attend classes at an accredited college near your post? Fine! The Army pays part of your tuition fees. Here are just a few of the hundreds of specialized courses you can take through USAFI:

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3. BEST OF ALL... You get all these educational advantages while learning new skills in your Army specialty—enjoying a good salary, a 30-day paid vacation each year plus many special benefits! In Today's Army, your opportunities to learn, grow and get ahead are *unlimited!*

WANT DETAILS? This week, talk it over with your local Army recruiter.

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